(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

§63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Other Requirements and Information

§63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a

site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Alaska Railbelt Grid means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Backup power for renewable energy means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see §63.14).

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101-549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §63.6640(f).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §63.6640(f)(2)(ii) or (iii) and §63.6640(f)(4)(i) or (ii).

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X, CO, and volatile organic compounds (VOC) into CO_2, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Remote stationary RICE means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_X (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011; 78 FR 6706, Jan. 30, 2013]

Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and using NSCR;	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.[1]
2. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or	Comply with any operating limitations approved by the Administrator.
existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and not using NSCR.	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6706, Jan. 30, 2013]

Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O_2. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O_2 until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2	

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; and existing CI stationary RICE >500 HP:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst.	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. Existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and
	b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
3. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and	Comply with any operating limitations approved by the Administrator.
New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and	

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6707, Jan. 30, 2013]

Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2.	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2.	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2.	
12. Non-emergency, non-black start stationary RICE 100≤HP≤500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O_2.	

[1]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[2]Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2c of this subpart.

[3]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[78 FR 6708, Jan. 30, 2013, as amended at 78 FR 14457, Mar. 6, 2013]

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[1] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]; b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
9. Non-emergency, non-black start 4SLB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.	
10. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
11. Non-emergency, non-black start 4SRB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
12. Non-emergency, non-black start 4SRB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[78 FR 6709, Jan. 30, 2013]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE >500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥250 HP located at major sources; and new or reconstructed CI stationary RICE >500 HP located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]
2. 4SRB stationary RICE ≥5,000 HP located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE >500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI stationary RICE >500 HP that are not limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE >500 HP that are limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 5 years, whichever comes first.

[1]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6711, Jan. 30, 2013]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. reduce CO emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For CO and O_2 measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Measure the O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[ac] (heated probe not necessary)	(b) Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
		iii. Measure the CO at the inlet and the outlet of the control device	(1) ASTM D6522-00 (Reapproved 2005)[abc] (heated probe not necessary) or Method 10 of 40 CFR part 60, appendix A-4	(c) The CO concentration must be at 15 percent O_2, dry basis.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
2. 4SRB stationary RICE	a. reduce formaldehyde emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For formaldehyde, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A.
		ii. Measure O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[a] (heated probe not necessary)	(a) Measurements to determine O_2 concentration must be made at the same time as the measurements for formaldehyde or THC concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03[a]	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.
		iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formalde-hyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03[a], provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	(1) Method 25A, reported as propane, of 40 CFR part 60, appendix A-7	(a) THC concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
3. Stationary RICE	a. limit the concentra-tion of formalde-hyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary RICE; and		(a) For formaldehyde, CO, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A. If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2 concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[a] (heated probe not necessary)	(a) Measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iii. Measure moisture content of the station-ary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03[a]	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iv. Measure formalde-hyde at the exhaust of the station-ary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03[a], provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. measure CO at the exhaust of the station-ary RICE	(1) Method 10 of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (2005)[ac], Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03[a]	(a) CO concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

[a]You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[b]You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[79 FR 11290, Feb. 27, 2014]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and
		ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
11. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.
13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F.
14. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1250 °F.

[78 FR 6712, Jan. 30, 2013]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved[a]; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved[a]; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and
		iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent.[a]
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit[a]; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit[a]; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
14. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.
15. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.

[a]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6715, Jan. 30, 2013]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or	i. Semiannually according to the requirements in §63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.
		b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or	i. Semiannually according to the requirements in §63.6650(b).
		c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4).	i. Semiannually according to the requirements in §63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in §63.6650.
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 2.a.i.
		c. Any problems or errors suspected with the meters.	i. See item 2.a.i.
3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Compliance report	a. The results of the annual compliance demonstration, if conducted during the reporting period.	i. Semiannually according to the requirements in §63.6650(b)(1)-(5).

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
4. Emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operate for the purposes specified in §63.6640(f)(4)(ii)	Report	a. The information in §63.6650(h)(1)	i. annually according to the requirements in §63.6650(h)(2)-(3).

[78 FR 6719, Jan. 30, 2013]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)-(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)-(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	No	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	No	
§63.8(c)(2)-(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)-(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)-(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(b)(1)-(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.
§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)-(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.10(b)(1)	Record retention	Yes	Except that the most recent 2 years of data do not have to be retained on site.
§63.10(b)(2)(i)-(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)-(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)-(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010, as amended at 78 FR 6720, Jan. 30, 2013]

Appendix A—Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

1.0 Scope and Application. What is this Protocol?

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O_2) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

1.1 Analytes. What does this protocol determine?

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O_2).

Analyte	CAS No.	Sensitivity
Carbon monoxide (CO)	630-08-0	Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.
Oxygen (O_2)	*7782-44-7*	

1.2 Applicability. When is this protocol acceptable?

This protocol is applicable to 40 CFR part 63, subpart ZZZZ. Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

1.3 Data Quality Objectives. How good must my collected data be?

Refer to Section 13 to verify and document acceptable analyzer performance.

1.4 Range. What is the targeted analytical range for this protocol?

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and O_2, or no more than twice the permitted CO level.

1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

2.0 Summary of Protocol

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O_2 gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

3.0 Definitions

3.1 Measurement System. The total equipment required for the measurement of CO and O_2 concentrations. The measurement system consists of the following major subsystems:

3.1.1 Data Recorder. A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

3.1.2 Electrochemical (EC) Cell. A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

3.1.3 Interference Gas Scrubber. A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

3.1.4 Moisture Removal System. Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

3.1.5 Sample Interface. The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

3.2 Nominal Range. The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

3.3 Calibration Gas. A vendor certified concentration of a specific analyte in an appropriate balance gas.

3.4 Zero Calibration Error. The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

3.5 Up-Scale Calibration Error. The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

3.6 Interference Check. A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

3.7 Repeatability Check. A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

3.8 Sample Flow Rate. The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

3.9 Sampling Run. A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O_2 and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

3.10 Sampling Day. A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

3.11 Pre-Sampling Calibration/Post-Sampling Calibration Check. The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.

3.12 Performance-Established Configuration. The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

4.0 Interferences.

When present in sufficient concentrations, NO and NO_2 are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

5.0 Safety. [Reserved]

6.0 Equipment and Supplies.

6.1 What equipment do I need for the measurement system?

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

6.2 Measurement System Components.

6.2.1 Sample Probe. A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

6.2.2 Sample Line. Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

6.2.3 Calibration Assembly (optional). A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

6.2.4 Particulate Filter (optional). Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

6.2.5 Sample Pump. A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.8 Sample Flow Rate Monitoring. An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

6.2.9 Sample Gas Manifold (optional). A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.10 EC cell. A device containing one or more EC cells to determine the CO and O_2 concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

6.2.11 Data Recorder. A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O_2; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

6.2.12 Interference Gas Filter or Scrubber. A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 Reagents and Standards. What calibration gases are needed?

7.1 Calibration Gases. CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and O_2. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ±5 percent of the label value. Dry ambient air (20.9 percent O_2) is acceptable for calibration of the O_2 cell. If needed, any lower percentage O_2 calibration gas must be a mixture of O_2 in nitrogen.

7.1.1 Up-Scale CO Calibration Gas Concentration. Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

7.1.2 Up-Scale O_2 Calibration Gas Concentration.

Select an O_2 gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O_2. When the average exhaust gas O_2 readings are above 6 percent, you may use dry ambient air (20.9 percent O_2) for the up-scale O_2 calibration gas.

7.1.3 Zero Gas. Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO_2).

8.0 Sample Collection and Analysis

8.1 Selection of Sampling Sites.

8.1.1 Control Device Inlet. Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.1.2 Exhaust Gas Outlet. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.2 Stack Gas Collection and Analysis. Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the "sample conditioning phase" once per minute until constant readings are obtained. Then begin the "measurement data phase" and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the "measurement data phase" readings to calculate the average stack gas CO and O_2 concentrations.

8.3 EC Cell Rate. Maintain the EC cell sample flow rate so that it does not vary by more than ±10 percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check. Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than ±3 percent, as instructed by the EC cell manufacturer.

9.0 Quality Control (Reserved)

10.0 Calibration and Standardization

10.1 Pre-Sampling Calibration. Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

10.1.1 Zero Calibration. For both the O_2 and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two

consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

10.1.2 Zero Calibration Tolerance. For each zero gas introduction, the zero level output must be less than or equal to ±3 percent of the up-scale gas value or ±1 ppm, whichever is less restrictive, for the CO channel and less than or equal to ±0.3 percent O_2 for the O_2 channel.

10.1.3 Up-Scale Calibration. Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this "sample conditioning phase" once per minute until readings are constant for at least two minutes. Then begin the "measurement data phase" and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

10.1.4 Up-Scale Calibration Error. The mean of the difference of the "measurement data phase" readings from the reported standard gas value must be less than or equal to ±5 percent or ±1 ppm for CO or ±0.5 percent O_2, whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single "measurement data phase" reading must be less than or equal to ±2 percent or ±1 ppm for CO or ±0.5 percent O_2, whichever is less restrictive, respectively.

10.2 Post-Sampling Calibration Check. Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

12.0 Calculations and Data Analysis

Determine the CO and O_2 concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the "measurement data phase".

13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

13.1 Measurement Data Phase Performance Check. Calculate the mean of the readings from the "measurement data phase". The maximum allowable deviation from the mean for each of the individual readings is ±2 percent, or ±1 ppm, whichever is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to Section 10.1.4. The EC cell flow rate must conform to the specification in Section 8.3.

Example: A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than ±2 percent *or* ±1 ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed).

13.2 Interference Check. Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and NO_2 gas standards that are generally recognized as representative of diesel-fueled engine NO and NO_2 emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

13.2.1 Interference Response. The combined NO and NO_2 interference response should be less than or equal to ±5 percent of the up-scale CO calibration gas concentration.

13.3 Repeatability Check. Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

13.3.1 Repeatability Check Procedure. Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow Section 10.1.3. Use Figure 1 to record all data. Repeat the run three times for a total of four complete runs. During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

13.3.2 Repeatability Check Calculations. Determine the highest and lowest average "measurement data phase" CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than ±3 percent or ±1 ppm of the up-scale gas value, whichever is less restrictive.

14.0 Pollution Prevention (Reserved)

15.0 Waste Management (Reserved)

16.0 Alternative Procedures (Reserved)

17.0 References

(1) "Development of an Electrochemical Cell Emission Analyzer Test Protocol", Topical Report, Phil Juneau, Emission Monitoring, Inc., July 1997.

(2) "Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers, and Process Heaters Using Portable Analyzers", EMC Conditional Test Protocol 30 (CTM-30), Gas Research Institute Protocol GRI-96/0008, Revision 7, October 13, 1997.

(3) "ICAC Test Protocol for Periodic Monitoring", EMC Conditional Test Protocol 34 (CTM-034), The Institute of Clean Air Companies, September 8, 1999.

(4) "Code of Federal Regulations", Protection of Environment, 40 CFR, Part 60, Appendix A, Methods 1-4; 10.

Table 1: Appendix A—Sampling Run Data.

Facility_____ Engine I.D._____ Date_____											
Run Type:	(_)		(_)		(_)		(_)				
(X)	Pre-Sample Calibration		Stack Gas Sample		Post-Sample Cal. Check		Repeatability Check				
Run #	1	1	2	2	3	3	4	4	Time	Scrub. OK	Flow- Rate
Gas	O_2	CO	O_2	CO	O_2	CO	O_2	CO			
Sample Cond. Phase											
"											
"											
"											
"											
Measurement Data Phase											
"											
"											
"											
"											
"											
"											
"											
"											
"											
"											
Mean											
Refresh Phase											
"											
"											
"											
"											

[78 FR 6721, Jan. 30, 2013]

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (ATSD) for a Part 70 Significant Source Modification and Significant Permit Modification

Source Background and Description

Source Name:	Tradebe Treatment and Recycling, LLC
Source Location:	4343 Kennedy Avenue, East Chicago, IN 46312
County:	Lake
SIC Code:	4953 (Refuse Systems)
Operation Permit No.:	T 089-29424-00345
Operation Permit Issuance Date:	February 25, 2011
Significant Source Modification No.:	089-34432-00345
Significant Permit Modification No.:	089-34503-00345
Permit Reviewer:	Heath Hartley

On December 30, 2014, the Office of Air Quality (OAQ) had a notice published in Post Tribune in Merrillville, Indiana and The Times in Munster, Indiana, Indiana, stating that Tradebe Treatment and Recycling, LLC had applied for a Significant Source Modification and Significant Permit Modification to construct and operate a new Solids Distillation System (SDS II). The notice also stated that the OAQ proposed to issue a Significant Source Modification and Significant Permit Modification for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

On January 26, 2015, Tradebe Treatment and Recycling, LLC submitted comments to IDEM, OAQ on the draft Significant Source Modification and Significant Permit Modification (See Tradebe Comments 1 through 4 below).

On January 29, 2015, David Case of the Environmental Technology Council (ETC) submitted comments to IDEM, OAQ on the draft Significant Source Modification and Significant Permit Modification (See ETC Comment 1 below).

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Tradebe Comment 1:

Conditions D.1.9 - The following changes should be made to correct and clarify equations and terms used in this condition:

a. The equation to compute VOC emissions from the SDSII VRU, identified with the term V_{VRUII}, should be modified to remove the term V_F. The first part of the equation for V_{VRUII}, $[W*EF_{VRUII}*((100\%-CE_{F-CC})/100\%)]$, represents the means that one would compute emissions occurring from the flare that would be attributable to the SDSII unit. The term V_F is described as "Total VOC emissions created by flare FL1 per month (tons)", which is also VOC emissions occurring from the flare that would be attributable to the SDSII unit. The term V_F should be removed from this equation and removed from the list of variables defined following the equations.

b. The description for the term W should be modified to read "total weight of input material fed to the SDS II shredder per month (tons)" to distinguish this from the existing SDS unit.

c. The description for the variable EF_{SHS} should be changed to read "VOC uncontrolled emission factor for the SDS II solids handling system (lb/ton feed to the shredder)".

d. For the explanation of variables used in equations, there is a listing for the term W_{T85}. This should be U_{T85}

Response to Tradebe Comment 1:

a. IDEM agrees with the recommended changes. The controlled emissions calculated in the equation by the [$W*EF_{VRUII}*((100\%-CE_{F-CC})/100\%)$] would take into account any VOC emissions created by the flare. The permit has been revised as shown below.

b. IDEM agrees with the recommended changes. The permit has been revised as shown below:

c. IDEM agrees with the recommended changes. The permit has been revised as shown below:

d. IDEM agrees with the recommended changes. The permit has been revised as shown below:

D.1.9 VOC Emissions

Compliance with the VOC limit contained in Conditions D.1.1(c) and D.1.3(c) shall be determined using the following equations:

.....

$$V_{VRUII} = \left(W * EF_{VRUII} * \left(\frac{100\% - CE_{F-CC}}{100\%} \right) ~~+ V_F~~ \right)$$

.....

~~V_F = Total VOC emissions created by flare FL1 per month (tons);~~

.....

W = Total weight of input material fed to **the SDS II** shredder per month (tons);
EF_S = VOC uncontrolled emission factor for the SDS II shredder (lb/ton);
EF_{SHS} = VOC uncontrolled emission factor for the SDS II solids handling system (lb/ton **feed to the SDS II shredder**);

.....

~~W~~U_{T85} = VOC uncontrolled emissions for Tank 85 (ton/yr);

Tradebe Comment 2:

Condition D.1.10 – The equation refers to a term labeled V_F, which is described as "Total VOC emissions created by flare FL1 per month (tons)". The first part of the equation for V_{TOT}, [$W*EF_{VRU}*((100\%-CE_{F-CC})/100\%)$], represents the means that one would compute emissions occurring from the flare that would be attributable to the SDS unit. The term V_F also corresponds to VOC emissions occurring from the flare that would be attributable to the SDS unit. The term V_F should be removed from the equation and removed from the list of variables defined.

Response to Tradebe Comment 2:

IDEM agrees with the recommended changes. The controlled emissions calculated in the equation by the [$W*EF_{VRU}*((100\%-CE_{F-CC})/100\%)$] would take into account any VOC emissions created by the flare. The permit has been revised as shown below:

D.1.10 VOC Emissions

Compliance with the VOC limit contained in Condition D.1.1(b) and D.1.3(b) shall be determined as follows:

$$V_{TOT} = \sum_{m=1}^{12}\left[W * EF_{VRU} * \left(\frac{100\% - CE_{F-CC}}{100\%} \right) ~~+ V_F~~ \right]$$

.....

~~V_E = Total VOC emissions created by flare FL1 per month (tons);~~

Tradebe Comment 3:

Condition D.1.17(e)(3) – This condition requires that monthly records be maintained of the "flow rate to the flare as recorded by the flow meter", however it is not clear what compliance requirement these records are intended to correspond to or the frequency of measurement necessary to satisfy the requirement for monthly records. There does not appear to be any compliance requirements which require flow rate data in order to evaluate compliance. If this is correct, Tradebe believes that the requirement to maintain records from a flow meter is not necessary and should be removed from the permit.

Condition D.1.17(e)(8) – The wording for this record keeping requirement should be clarified by rewording it to read "maintain records of flare testing demonstrating compliance with the requirements of 40 CFR 60.18."

Response to Tradebe Comment 3:

IDEM agrees with the recommended changes. In addition, IDEM OAQ has determined that records of the date and time when the Vapor Recovery Units (VRU and VRU II) were venting to the flare, and records of the date and time when the Vapor Recovery Units (VRU and VRU II) were venting to the carbon adsorbers is also required. The permit has been revised as shown below:

D.1.17 Record Keeping Requirements

.....

(e) To document the compliance status with Conditions D.1.1(b), D.1.1(c), D.1.3(a), D.1.3(b), D.1.3(c), D.1.9, D.1.10 and D.1.15, the Permittee shall maintain records in accordance with (1) through (~~9~~7) below. Records maintained for (1) through (~~9~~7) shall be taken monthly and shall be complete and sufficient to establish compliance with the emission limits and requirements established in Conditions D.1.1(b), D.1.1(c), D.1.3(a), D.1.3(b), D.1.3(c), D.1.9, D.1.10 and D.1.15.

(1) A copy of the manufacturer's operation and maintenance manual that defines operating procedures that will ensure destruction efficiency;

(2) The design specifications for the flare, and make such records available upon request to IDEM, OAQ and the U.S. EPA;

(3) ~~Monthly records of flow rate to the flare as recorded by the flow meter, in either electronic or hard copy;~~

(4~~3~~) Date and time when the Vapor Recovery Units (VRU and VRU II) were venting to the flare;

(~~5~~**4**) The Permittee shall maintain monthly records in either electronic or hard copy to demonstrate the thermocouple or equivalent device detects the presence of a flame no less than once per minute on the flare when either of the Vapor Recovery Units (VRU or VRU II) were in operation;

(~~6~~**5**) Measurements, engineering assessments, and calculations used to determine the monthly VOC emissions (before and after control) associated with each of the SDS and SDS II processes

(~~7~~**6**) The VOC emissions (after control) for each month and each compliance period for the SDS and the SDS II; and

(~~8~~**7**) ~~The results from the most recent valid stack test for flare FL1~~**Records of flare FL1 testing demonstrating compliance with the requirements of 40 CFR 60.18**.

(f) To document the compliance status with Condition D.1.16, the Permittee shall maintain records of the inspections required under Condition D.1.16. The Permittee shall also maintain the following records:

(1) The normal carbon bed changeout frequency and any supporting information, including, but not limited to, performance test data, monitoring data, the carbon bed adsorption capacity, and pollutant loading;

(2) Carbon adsorber monitoring data, pollutant breakthrough data; and

(3) Date(s) of carbon bed changeout/replacement.

(4) Date and time when the Vapor Recovery Units (VRU and VRU II) were venting to the Carbon adsorber C18 and C38.

.....

Tradebe Comment 4:

Tradebe does not believe that 40 CFR Part 63, Subpart FFFF (Subpart FFFF) applies to its operations as indicated by Section E.6 of the proposed permits. Subpart FFFF applies to owners and operators of miscellaneous organic chemical manufacturing process units (MPCUs) as specified in 40 CFR 63.2435(a). According to 40 CFR 63.2435(b) an MPCU "produces material or family of material" that is described in (b)(1)(i) through (v). Only three of those could apply to Tradebe. 40 CFR 63.2435(b)(1)(i) and (ii) apply to units that produce organic chemicals. Tradebe is not an organic chemical manufacturer (in the applicable SICs or NAICS codes) because it does not manufacture the organic chemicals, it recovers them. Therefore, Tradebe does not fall in 40 CFR 63.2435(b)(1)(i) or (ii). Therefore, the only way those units could be MPCUs is if they satisfy 40 CFR 63.2435(b)(1)(v). That rule applies to organic solvents classified in (b)(1)(i) or (ii) "that are recovered using nondedicated solvent recovery operations." 40 CFR 63.2550 defines a nondedicated solvent recovery operation as "a distillation unit or other purification equipment that receives used solvent from more than one MPCU." Because a nondedicated solvent recovery operation has to receive used solvent from an MPCU, then nondedicated solvent recovery operations that receive used solvent from other types of operations (manufacturing facilities/generators that used the solvent - did not make it - and are sending it for cleaning) are covered by the rule. However, if one of the sources of the dirty solvent is an MPCU then the recovery unit is subject to the rule even though it is not located where the solvent was manufactured. See, 68 Fed. Reg. 63852 (at page 63859) (November 10, 2003). The preamble to the final rule also provides the following statement that further supports the fact that units subject to the rule are those than manufacture the specific chemical or clean up the dirty chemical generated by a unit that manufactures the chemical: "An MCPU includes a miscellaneous organic chemical manufacturing process, as defined in 40 CFR 63.2550, and must meet the following criteria: (1) It manufactures any material or family of materials described in 40 CFR 63.2435(b)(1); (2) it process, uses, or produces HAP described in 40 CFR 63.2435(b)(2); and,

except for certain process vents that are part of a chemical manufacturing process unit, as described in 40 CFR 63.100(j)(4), the MCPU is not part of an affected source under another subpart of 40 CFR part 63." 68 Fed. Reg. at 63854. Tradebe has reviewed its records and verified that it does not process any materials that originate from units that produce organic chemicals.

Response to Tradebe Comment 4:

Based on the information provided in Tradebe's comment, IDEM has reevaluated the applicability of 40 CFR 63, Subpart DD. It has been determined that the Distillation Unit, Thin Film Evaporator, and Pot Still are subject to the requirements of 40 CFR 63, Subpart DD. Pursuant to §63.2435(b)(3), a unit is not an affected source under 40 CFR 63, Subpart FFFF if it is subject to a another subpart of 40 CFR part 63. As specified by EPA in Section IV (Summary of Responses to Major Comments) of the final published rule for 40 CFR 63, Subpart FFFF, "offsite operations that are part of an affected source under another subpart of 40 CFR part 63, such as the Offsite Waste and Recovery Operations NESHAP (subpart DD), are not subject to subpart FFFF, as specified in § 63.2435(b)(3) of the final rule" (see 68 FR 63859 (Federal Register / Vol. 68, No. 217 / Monday, November 10, 2003). Finally, Tradebe's materials recovery operations fall under the Standard Industrial Classification (SIC) Code of 4953 (Refuse Systems) and the North American Industry Classification System (NAICS) Code of 562920 (Materials Recovery Facilities), which are not any of the SIC or NAICS Codes listed under 40 CFR 63.2435(b)(1) of 40 CFR 63, Subpart FFFF.

Note: Prior to this modification, the Distillation Unit, Thin Film Evaporator, and Pot Still were determined to be subject to the requirements of 40 CFR 63, Subpart DD (see Minor Permit Modification No. 089-34282-00345).

IDEM agrees with the recommended changes, and the requirements of 40 CFR 63, Subpart FFFF are removed from the permit as follows:

A.2 Emission Units and Pollution Control Equipment Summary
[326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(14)]

This stationary source consists of the following emission units and pollution control devices:

(e) One (1) Distillation Unit, constructed in 2004, with a maximum throughput rate of 1.0 tons of liquid waste per hour, controlled by a carbon adsorption system (C19), and exhausting to stack SDS 05.

Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart ~~FFFF~~**DD**, this unit is considered an affected facility.

.....

(i) One (1) Pot Still, constructed in 2007 and modified in 2015, with a maximum throughput rate of 115 gallons of liquid waste per hour, controlled by a carbon adsorption system (C33), and exhausting to stack SDS 10.

Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart ~~FFFF~~**DD**, this unit is considered an affected facility.

(j) One (1) Thin Film Evaporator, constructed in 2008, with a 2.4 million Btu/hr natural gas fired burner and a maximum throughput rate of 390 gallons of liquid waste per hour, controlled by a carbon adsorption system (C34), and exhausting to stack S11.

Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart ~~FFFF~~**DD**, this unit is considered an affected facility.

.....

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

(e) One (1) Distillation Unit, constructed in 2004, with a maximum throughput rate of 1.0 tons of liquid waste per hour, controlled by a carbon adsorption system (C19), and exhausting to stack SDS 05.

Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart ~~FFFF~~**DD**, this unit is considered an affected facility.

.....

(i) One (1) Pot Still, constructed in 2007 and modified in 2015, with a maximum throughput rate of 115 gallons of liquid waste per hour, controlled by a carbon adsorption system (C33), and exhausting to stack SDS 10.

Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart ~~FFFF~~**DD**, this unit is considered an affected facility.

(j) One (1) Thin Film Evaporator, constructed in 2008, with a 2.4 million Btu/hr natural gas fired burner and a maximum throughput rate of 390 gallons of liquid waste per hour, controlled by a carbon adsorption system (C34), and exhausting to stack S11.

Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart ~~FFFF~~**DD**, this unit is considered an affected facility.

.....

Note: This change is also made to the emission unit descriptions in Sections E.1 and E.2.

~~SECTION E.6 EMISSIONS UNIT OPERATION CONDITIONS~~

~~Emissions Unit Description:~~

~~(e) One (1) Distillation Unit, constructed in 2004, with a maximum throughput rate of 1.0 tons of liquid waste per hour, controlled by a carbon adsorption system (C19), and exhausting to stack SDS 05.~~

~~Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart FFFF, this unit is considered an affected facility.~~

~~(i) One (1) Pot Still, constructed in 2007 and modified in 2015, with a maximum throughput rate of 115 gallons of liquid waste per hour, controlled by a carbon adsorption system (C33), and exhausting to stack SDS 10.~~

~~Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart FFFF, this unit is considered an affected facility.~~

~~(j) One (1) Thin Film Evaporator, constructed in 2008, with a 2.4 million Btu/hr natural gas fired burner and a maximum throughput rate of 390 gallons of liquid waste per hour, controlled by a carbon adsorption system (C34), and exhausting to stack S11.~~

~~Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart FFFF, this unit is considered an affected facility.~~

~~(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)~~

~~National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]~~

~~E.6.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants (NESHAP) [40 CFR 63, Subpart A] [326 IAC 20-1]~~

~~Pursuant to 40 CFR 63, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference in 326 IAC 20-1, for the above listed emissions units, except when otherwise specified in 40 CFR 63, Subpart FFFF.~~

~~E.6.2 Miscellaneous Organic Chemical Manufacturing NESHAP [40 CFR 63, Subpart FFFF] [326 IAC 20-84]~~

~~The Permittee shall comply with the following provisions of 40 CFR 63 Subpart FFFF (included as Attachment F to this permit), which are incorporated by reference as 326 IAC 20-84 for the Pot Still, Thin Film Evaporator and Distillation Unit:~~

~~(1) 40 CFR 63.2430~~
~~(2) 40 CFR 63.2435(a),(b),(d) and (e)~~
~~(3) 40 CFR 63.2440~~
~~(4) 40 CFR 63.2445(a)(2),(c),(d) and (f)~~
~~(5) 40 CFR 63.2450(a),(b),(c),(e),(g),(h),(l),(m) and (p)~~
~~(6) 40 CFR 63.2455(a) and (b)~~
~~(7) 40 CFR 63.2465~~
~~(8) 40 CFR 63.2470~~
~~(9) 40 CFR 63.2475~~
~~(10) 40 CFR 63.2480(a) and (b)~~
~~(11) 40 CFR 63.2505~~
~~(12) 40 CFR 63.2515~~
~~(13) 40 CFR 63.2520~~
~~(14) 40 CFR 63.2525(a)-(f)~~
~~(15) 40 CFR 63.2540~~
~~(16) 40 CFR 63.2545~~
~~(17) 40 CFR 63.2550~~
~~(18) Table 1~~
~~(19) Table 3~~
~~(20) Table 4~~
~~(21) Table 5~~
~~(22) Table 6~~
~~(23) Table 8~~
~~(24) Table 9~~
~~(25) Table 11~~
(26) ~~Table 12~~

SECTION E.~~7~~**6** EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) Hazardous waste material (HWM) tank storage, identified as Unit 1, described as follows:

.....

(e) One (1) Distillation Unit, constructed in 2004, with a maximum throughput rate of 1.0 tons of liquid waste per hour, controlled by a carbon adsorption system (C19), and exhausting to stack SDS 05.

Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart DD, this unit is considered an affected facility.

(i) One (1) Pot Still, constructed in 2007 and modified in 2015, with a maximum throughput rate of 115 gallons of liquid waste per hour, controlled by a carbon adsorption system (C33), and exhausting to stack SDS 10.

Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart DD, this unit is considered an affected facility.

(j) One (1) Thin Film Evaporator, constructed in 2008, with a 2.4 million Btu/hr natural gas fired burner and a maximum throughput rate of 390 gallons of liquid waste per hour, controlled by a carbon adsorption system (C34), and exhausting to stack S11.

Under 40 CFR 61, Subpart J, 40 CFR 61, Subpart V, 40 CFR 61, Subpart FF and 40 CFR 63, Subpart DD, this unit is considered an affected facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements
[326 IAC 2-7-5(1)]

E.~~7~~**6**.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants (NESHAP) [40 CFR 63, Subpart A] [326 IAC 20-1]

Pursuant to 40 CFR 63, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference in 326 IAC 20-1, for the above listed emissions units, except when otherwise specified in 40 CFR 63, Subpart DD.

E.~~7~~**6**.2 Off-Site Waste and Recovery Operations NESHAP [40 CFR 63, Subpart DD] [326 IAC 20-23]

.....

SECTION E.~~8~~**7** FACILITY OPERATION CONDITIONS

Facility Description:

(n) One (1) diesel-fired emergency generator, approved in 2015 for construction, with a maximum capacity of 896 horsepower, exhausting to stack G.

Under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

E.~~8~~**7**.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the above listed emission unit, except as otherwise specified in 40 CFR Part 60, Subpart IIII.

E.~~87~~.2 Stationary Compression Ignition Internal Combustion Engines NSPS [326 IAC 12] [40 CFR Part 60, Subpart IIII]

.....

SECTION E.~~98~~ FACILITY OPERATION CONDITIONS

Facility Description:

(n) One (1) diesel-fired emergency generator, approved in 2015 for construction, with a maximum capacity of 896 horsepower, exhausting to stack G.

Under 40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements
[326 IAC 2-7-5(1)]

E.~~98~~.1 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

.....

ETC Comment 1:

IDEM has proposed that the Tradebe thermal desorption units (TDUs) comply with the NESHAP for process heaters, 40 CFR 63, Subpart DDDDD. However, the courts and US EPA have made clear that TDUs as operated by Tradebe must comply with a NESHAP for hazardous waste combustion units, 40 CFR 63, Subpart EEE.

Note: The comment above is a brief summary of the comment submitted by David Case of the Environmental Technology Council (ETC) above. ETC's entire comment (including two (2) attachments) is included as Appendix A to this ATSD.

Response to ETC Comment 1:

IDEM does not agree with the analysis and recommended changes proposed by Environmental Technology Council (ETC). Based on information provided by Tradebe and upon further evaluation by IDEM OAQ, it has been determined that the SDS and SDS II units at Tradebe are different than the thermal metal wash recycling unit (TMW) at Rineco Chemical Industries, Inc., and the thermal desorption unit (TDU) at TD*X Associates L.P., since the reclaimed organics in Tradebe's SDS and SDS II units are (will be) used directly or as ingredients to make products and are not (will not be) used as a fuel. A detailed response to this comment is provided below.

Pursuant to 40 CFR 63.1200 and 40 CFR 63.1201, the requirements of 40 CFR Part 63, Subpart EEE (National Emission Standards for Hazardous Air Pollutants (NESHAP) for Hazardous waste combustors) are applicable to each "hazardous waste combustor", which is defined as "a hazardous waste incinerator, hazardous waste burning cement kiln, hazardous waste burning lightweight aggregate kiln, hazardous waste liquid fuel boiler, hazardous waste solid fuel boiler, or hazardous waste hydrochloric acid production furnace." The existing and new Solids Distillation System (SDS and SDS II) units will each be recycling operations achieved through thermal desorption, a process that separates the volatile organics from contaminated solid hazardous waste and results in the recovery of a usable product. Each of the SDS and SDS II units is not a cement kiln, aggregate kiln, boiler, or hydrochloric acid production furnace.

Therefore, the only way the SDS and SDS II units could be classified as a hazardous waste combustor is if they are hazardous waste incinerators.

Pursuant to 40 CFR 63.1201(a), a "hazardous waste incinerator" is defined as "a device defined as an incinerator in §260.10 of this chapter and that burns hazardous waste at any time. For purposes of this subpart, the hazardous waste incinerator includes all associated firing systems and air pollution control devices, as well as the combustion chamber equipment." 40 CFR 260.10 defines an "incinerator" as "any enclosed device that: (1) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or (2) Meets the definition of infrared incinerator or plasma arc incinerator." Each of the SDS and SDS II units is a thermal desorption unit, not a boiler, sludge dryer, carbon regeneration unit, listed industrial furnace, infrared incinerator, or plasma arc incinerator.

Therefore, the only way each of the SDS and SDS II units can satisfy the definition of "incinerator" is if they use controlled flame combustion. For a thermal desorption unit to use "controlled flame combustion" and thus be an incinerator, either the desorption chamber must be directly fired or the unit must have a fired afterburner to destroy organics [June 12, 1998 letter from Elizabeth Cotsworth, Acting Director, Office of Solid Waste, EPA, and Stephen D. Luftig, Director, Office of Emergency and Remedial Response, EPA, to Parker E. Brugge, Patton Boggs, L.L.P (RCRA Online Number 14266) and February 23, 1994 letter from Michael Shapiro, Director, Office of Solid Waste, EPA, to David D. Emery, Bioremediation Service, Inc. (RCRA Online Number 13657)]. Because the desorption chamber for each of the SDS and SDS II units is indirectly heated and not directly fired and because SDS and SDS II each does not have a fired afterburner, each does not use "controlled flame combustion" and each is not an incinerator as defined in 40 CFR 260.10 or a hazardous waste incinerator as defined in 40 CFR 63.1201(a). Therefore, each of the SDS and SDS II units are not a hazardous waste combustion unit subject to this NESHAP.

The comment from ETC references a court case involving Rineco Chemical Industries (Rineco). The court ruled that a thermal metal wash recycling unit (TMW) at Rineco was not eligible for the recycling exemption under RCRA, since the char and recovered oil from the TMW process was blended and sent off site for burning in a cement kiln as a hazardous waste derived fuel (HWDF). The court also ruled that even though the TMW was used for recycling metal, the primary purpose of the TMW was to blend hazardous waste into fuel. Finally, the court ruled that Rineco acted as an intermediary to a BIF (Boiler and/or Industrial Furnace) and the char and recovered oil did not meet the recycling exemption, since they were burned/incinerated.

The comment from ETC also references a Consent Agreement and Final Order (CAFO) with TD*X Associates L.P. In the Findings of Fact and Conclusions of Law section of the CAFO, it was determined that a portion of the oil recovered in the TD*X thermal desorption unit (TDU) and any non-condensable gases generated by the TDU were injected back into the combustion chamber of the TDU, where it was burned, and thus required a RCRA permit for the thermal treatment of hazardous waste in the combustion chamber of the TDU.

Each of the SDS and SDS II units is (will be) utilized for reclaiming hydrocarbons from non-liquid hazardous waste. The reclaimed organics are (will be) used directly or as ingredients to make products. The reclaimed organics are not (will not be) used as a fuel, and therefore are exempt from the need for a hazardous waste permit, pursuant to 40 CFR 261.6. This determination was confirmed in a July 2002 letter from IDEM's Office of Land Quality (*See the entire letter included as Appendix B to this ATSD*). The letter stated that the original indirect thermal desorption unit (what now is called SDS) was subject to the recycling unit exemption in the hazardous waste rules because it would be used to recover organics that will be used either directly or as ingredients to make products. Because the purpose of SDS II is the same as SDS, IDEM's 2002 determination applies with equal force to SDS II. *(Note: This source was formerly owned and operated by "Pollution Control Industries").* Therefore, for these reasons, the TMW at Rineco and the TDU at TD*X are different than the SDS and SDS II units at Tradebe.

A detailed analysis of Tradebe's SDS recycling exemption status was provided in March 31, 2006, letter from Thomas Easterly, Commissioner of IDEM to David Case, Environmental Technology Council (*See the entire letter included as Appendix C to this ATSD).*

No changes were made to the permit as a result of this comment.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Heath Hartley at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 232-8217 or toll free at 1-800-451-6027 extension 2-8217.

(b) A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: http://www.in.gov/idem/5881.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

Appendix A
to
Addendum to the Technical Support Document (ATSD)

Tradebe Treatment and Recycling, LLC

Significant Source Modification No. 089-34432-00345
Significant Permit Modification No. 089-34503-00345

Comment submitted by David Case of the Environmental Technology Council
(93 pages)

Environmental Technology Council

1112 16th Street NW • Suite 420 • Washington DC 20036 • (202) 783-0870

Submitted by email: hhartley@idem.in.gov
and U.S. Postal Service Certified Mail

January 29, 2015

Heath Hartley
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Re: Permit SSM 089-34432-00345 and
Significant Permit Modification 089-34503-00345

Dear Sir:

The Environmental Technology Council (ETC) respectfully submits these comments on the above-referenced Significant Permit Modification for the Anaerobic Thermal Desorption Units at the Tradebe Treatment and Recycling facility in East Chicago, Indiana.

The ETC is the national trade association for the commercial hazardous waste management industry. ETC member companies provide services and technologies to customers for the recycling, treatment, and secure disposal of industrial and hazardous wastes. In particular, ETC members operate thermal desorption units (TDUs) for processing hazardous wastes, with similar basic design and operating parameters as the Tradebe units. We therefore are familiar with the Title V permits issued by EPA and other states and the RCRA provisions that apply to these TDUs for comparison to the draft permit modification proposed by IDEM.

The Draft Title V Permit Is Based On The Wrong NESHAP

IDEM has proposed that the Tradebe TDUs comply with the NESHAP for process heaters. 40 CFR 63, Subpart DDDDD. However, the courts and U.S. EPA have made clear that TDUs as operated by Tradebe must comply with a Title V permit based on the NESHAP for hazardous waste combustion units. 40 CFR 63, Subpart EEE. The Tradebe TDUs process a broad range of hazardous wastes and constitute a major source subject to Clean Air Act NESHAP requirements. We understand that TDUs are indirectly heated and therefore do not meet the strict definition of a hazardous waste incinerator. Nevertheless, the emissions of concern result from the processing of hazardous wastes, not the burning of natural gas for indirect heating, so the NESHAP for process heaters is grossly inadequate for protection of human health and the environment.

Instead, the courts and U.S. EPA have determined that the NESHAP for hazardous waste combustors is the correct permitting approach for units with the design, operation, and hazardous waste throughput of the Tradebe TDUs. The processing of hazardous wastes in TDUs can result in emissions of dioxins/furans, mercury, heavy metals, and other toxic contaminants that are present in the hazardous waste feed to the units. Tradebe accepts an extensive list of hazardous wastes for processing in its TDUs, including paint waste, solvent soaked rags, resins, polymers, plastics, production debris, and discarded commercial chemicals. The resulting toxic emissions would not be expected from burning natural gas and therefore are not controlled by the NESHAP for process heaters. The hazardous waste combustor NESHAP must be used as the basis for adopting emission limits and operating parameters for the Tradebe TDUs.

The Court Decision In The Rineco Case Must Be Followed

Tradebe may argue that its TDUs do not conduct hazardous waste combustion because the unit is operated under low oxygen conditions using an external heat source. However, this argument was squarely rejected by U.S. EPA and the court in the Rineco case. (A copy of the court decision is attached to these comments for reference.)

Rineco Chemical Industries in Benton, Arkansas, operated a TDU of similar design and operation as the Tradebe TDUs. Rineco also asserted that hazardous waste combustion could not occur in the TDU because the "materials are indirectly heated in an oxygen-depleted chamber." Rineco Decision, Page 19 of 29. Nevertheless, EPA presented evidence – and the court found – that even with oxygen limited conditions, there was sufficient oxygen to support some burning of hazardous wastes, and in fact a significant amount of hazardous wastes were being burned in the TDU. Using a mass balance analysis, the court found that the data provided by Rineco itself on the amount of material fed to the TDU and the amount of material recovered did not account for approximately 13.9% of hazardous wastes that were destroyed by combustion. Rineco Decision, Page 20 of 29. This material was disposed of, burned, or incinerated in the treatment process in the TDU. *Id.* The court also found the residual char from the TDU "indicates that the destruction of organic materials takes place." *Id.* The Tradebe TDUs also produce significant quantities of char.

TDUs are generally of similar design and operation, and it is simply not possible to eliminate all oxygen from the chamber. Tradebe's TDUs are no exception. If Tradebe disputes the court's ruling, then a documented mass balance analysis should be developed to determine the amount of hazardous waste feed that is unaccounted for because of combustion. In any event, Tradebe does not dispute that its TDUs produce a large amount of char, which EPA and the court concluded also indicates that combustion is occurring.

Thus, it does not matter that the Tradebe TDU is not an incinerator. The draft Title V permit appears to rely on the statement that the TDU does not meet the strict definition of an incinerator as the basis for rejecting the NESHAP for hazardous waste combustors, but this is clear error. The question is not whether the TDU is an incinerator, but whether the

TDU is engaged in combustion of hazardous wastes. U.S. EPA and the court indisputably found that TDUs as operated by Tradebe burn some hazardous wastes in the treatment chamber. While the NESHAP for hazardous waste combustors applies on its face to incinerators, cement kilns, and boilers that burn hazardous waste, it must also be used as the basis for permitting major source TDUs that burn hazardous wastes as well. The NESHAP for process heaters with its limited standards for burning natural gas is clearly not adequate to protect against harmful toxic emissions from hazardous waste burning.

Tradebe Cannot Claim An Exemption For Recycling

Tradebe may also argue that its TDUs are recycling units exempt from RCRA permitting, so the NESHAP for hazardous waste combustors should not apply because it was issued under the joint authority of RCRA and the Clean Air Act. This argument fails on two counts, however. First, it is irrelevant that the NESHAP for hazardous waste combustors also satisfies the RCRA law's requirements for emission controls because this NESHAP is also a Clean Air Act regulation that applies through the Title V permit program. Regardless of the Tradebe TDUs' status under RCRA, the NESHAP for hazardous waste combustors is the applicable regulation under the Clean Air Act.

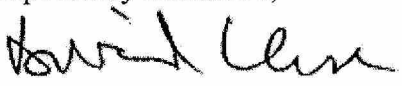
Second, U.S. EPA and the court also squarely rejected the claim that TDUs that recycle hazardous wastes are exempt from RCRA permitting when a portion of the TDU residual stream is used for hazardous waste fuel blending. Both U.S. EPA and IDEM regulations provide that hazardous wastes that are recycled do not qualify for an exemption if any portion is used as a hazardous waste fuel. *See* 40 CFR 261.6(a)(2); Rineco Decision, Page 14-18 of 29. Rineco argued in its court case that its TDU was used primarily to recycle metal. Likewise, Tradebe asserts that its TDU is used primarily to recycle hazardous wastes into marine cleaning solvent. Nevertheless, both Rineco and Tradebe direct some of the residual process streams into their hazardous waste fuel blending. *See* the Tradebe brochure attached, which states: "After processing, a portion of the residual material can be beneficially used in energy recovery." Both U.S. EPA and the court concluded that this activity disqualifies a recycling facility from the regulatory exemption from RCRA permitting

In addition, a Federal appeals court recently ruled in two different cases that burning of hazardous wastes must be subject to RCRA, and cannot be exempted as a recycling activity. In *Natural Resources Defense Council v. EPA*, 755 F.3d 1010 (D.C. Cir. 2014), the court held that an exclusion for hazardous waste burned in a manner that is comparable to fossil fuels was unlawful. In *Sierra Club v. EPA, 755 F.3d 968 (D.C. Cir. 2014)*, the court ruled that hazardous waste burned or processed into fuel in a gasification unit could not be excluded from RCRA. We strongly request that IDEM permitting staff consult with legal counsel to understand the importance and relevance of these court decisions. Because some of the hazardous wastes fed to the Tradebe TDUs are at least partially burned in the unit (as discussed above), and because the hazardous waste residual streams from the TDU are also used to produce a fuel, the TDUs are clearly subject to RCRA permitting requirements.

Indeed, to our knowledge, U.S. EPA has required all other commercial TDUs that process hazardous wastes to have RCRA permits under 40 CFR Subpart X for miscellaneous treatment units. The only exception is TDUs that process certain oil-bearing hazardous wastes from petroleum refining, production, or transportation practices. *See* 40 CFR 261.6(a)(3)(iii) & (iv). Tradebe does not claim to qualify for this exception and, in fact, Tradebe processes a wide range of hazardous wastes. U.S. EPA has taken major enforcement actions against TDUs that do not have RCRA permits, including the Rineco case and a recent Consent Agreement with TDX, *et al.*, in EPA Region 6. (The Consent Agreement and Final Order is attached for reference.) In general, these RCRA Subpart X permits issued to commercial TDUs that are major or area sources may incorporate emission limits and operating parameters from the NESHAP for hazardous waste combustors.

Thus, Tradebe clearly should have a RCRA permit for its TDUs. It does not. This matter should be referred to IDEM's Office of Land Quality for permit enforcement action, and in the meantime the draft Title V permit should be revised to incorporate the NESHAP for hazardous waste combustors.

Respectfully submitted,



David R. Case
Executive Director

ATTACHMENT

COURT DECISION IN RINECO CASE

IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF ARKANSAS
WESTERN DIVISION

UNITED STATES OF AMERICA,	*	
	*	
Plaintiff,	*	
	*	
vs.	*	No. 4:07cv001189 SWW
	*	
	*	
	*	
RINECO CHEMICAL INDUSTRIES, INC.,	*	
	*	
Defendant.	*	

MEMORANDUM AND ORDER

The United States of America brings this civil action against Rineco Chemical Industries, Inc. ("Rineco") under the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. §§ 6901 *et seq.* The United States seeks injunctive relief and civil penalties against Rineco for violations of RCRA Sections 3005(a) and 3010, 42 U.S.C. §§ 6925(a) and 6930, and Arkansas Pollution Control and Ecology Commission ("APCEC") Regulation No. 23, which incorporates federal regulations approved by the Environmental Protection Agency ("EPA") pursuant to RCRA that are part of the federally-enforceable State hazardous waste program relating to the generation, transportation, treatment, storage, handling, and disposal of hazardous waste.

Now before the Court are cross-motions of the parties for summary judgment [doc.#'s 13, 40] to which responses and replies have been filed. The Court held a hearing on these motions at the request of Rineco on September 4, 2008, and the matter is now ripe for decision. For the reasons that follow, the Court grants the United States' motion for summary judgment [doc.#40]

and denies Rineco's motion for summary judgment [doc.#13].[1]

I.

A.

RCRA is a comprehensive environmental statute that governs the treatment, storage, and disposal of solid waste. *Meghrig v. KFC Western, Inc.*, 516 U.S. 479, 483 (1996) (citation omitted). RCRA's primary purpose is to reduce the generation of hazardous waste and to ensure the proper treatment, storage, and disposal of that waste which is nonetheless generated "'so as to minimize the present and future threat to human health and the environment.'" *Id.* (quoting 42 U.S.C. § 6902(b)).

RCRA's Subtitle C, 42 U.S.C. §§ 6921 *et seq.*, establishes a "cradle-to-grave" regulatory system for the treatment, storage and disposal of hazardous wastes. *Cement Kiln Recycling Coalition v. E.P.A.*, 493 F.3d 207, 211 (C.A.D.C. 2007) (citations and internal quotation marks omitted). This system operates through a combination of national standards established by EPA regulations, and a permit program in which permitting authorities – either EPA or states that have hazardous waste programs authorized by EPA – apply those national standards to particular facilities. *Id.*

Permits are generally required under RCRA for any facility that engages in the treatment, storage, or disposal of hazardous waste. *United States v. Manning*, 434 F.Supp.2d 988, 998

[1] The Court deferred ruling on these motions pending a settlement conference before a Magistrate Judge in late October 2008 that proved unsuccessful. Following that settlement conference, the Court, by Order dated November 24, 2008 [doc.#85], granted a motion of Rineco for leave to file what it claimed to be newly discovered summary judgment evidence. In addition, the Court in that same November 24th Order granted leave of the United States to amend and supplement its complaint to add three additional claims. These additional claims are not addressed in the parties' cross-motions for summary judgment now under consideration.

(E.D. Wash. 2006). Section 3005(a) of RCRA, 42 U.S.C. § 6925, establishes a case-by-case permitting process. *Cement Kiln Recycling Coalition*, 493 F.3d at 211-12. Section 3005(a) directs EPA to promulgate regulations requiring each person owning or operating an existing facility that engages in the treatment, storage, or disposal of hazardous waste, or planning to construct a new facility that engages in the treatment, storage, or disposal of hazardous waste to have a permit pursuant to this section. *Id.* at 212 (quoting 42 U.S.C. § 6925(a)). Pursuant to Section 3005(a), EPA promulgated regulation 40 C.F.R. § 270.1(b), which provides that "[s]ix months after the initial promulgation of the part 261 regulations [Identification and Listing of Hazardous Waste], treatment, storage, or disposal of hazardous waste by any person who has not applied for or received a RCRA permit is prohibited." *See also United States v. Heuer*, 4 F.3d 723, 730 (9th Cir. 1993) ("It is fundamental that an entity which performs a hazardous waste activity for which a permit is required under RCRA may not legally perform that activity unless it has a permit for the relevant activity").

As indicated previously, pursuant to RCRA subsection 3006(b), EPA may authorize a state to administer and enforce its own hazardous waste program, so long as the state program is equivalent to and consistent with EPA's program and provides adequate compliance and enforcement measures. 42 U.S.C. § 6926(b). When a state obtains such authorization, the state hazardous waste program operates "in lieu" of the federal program. *Id.*

The State of Arkansas received final authorization to enforce its hazardous waste program on January 25, 1985. 40 C.F.R. § 272.201(a).[2] The Arkansas Department of Environmental Quality ("ADEQ") is the state agency primarily responsible for carrying out this authority in the

[2] Subsequent program revision applications were later approved. *Id.*

State of Arkansas.[3] During the time Arkansas has been authorized to administer the RCRA hazardous waste program, facilities in that state have been regulated under the provisions of APCEC Regulation No. 23, which has adopted and incorporated verbatim from the federal RCRA regulations.[4]

Despite having authorized a state to act, EPA frequently files its own enforcement actions against suspected environmental violators, even after the commencement of a state-initiated enforcement action (a process known as overfiling). *Harmon Indus., Inc. v. Browner*, 191 F.3d 894, 898 (8th Cir. 1999).[5] Before initiating any such action, however, RCRA requires that EPA give the authorized state prior notice. RCRA Section 3008(a)(2), 42 U.S.C. § 6928(a)(2).

B.

Rineco owns and operates a facility in Benton, Arkansas that is engaged in the generation, treatment, and storage of hazardous waste. Rineco is the largest single-site hazardous waste fuel blending facility in the United States and receives more than 400 different types of listed and characteristic solid phase and liquid phase hazardous wastes at its facility from a large number of

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[3] APCEC is the environmental policy-making body for Arkansas and ADEQ implements those policies.

[4] All paragraph numberings within APCEC Regulation No. 23 are the same as those used in the equivalent Federal Part such that someone seeking, for example, the State equivalent to 40 C.F.R. § 261.3(a)(2)(i) need only refer to APCEC Regulation No. 23 § 261.3(a)(2)(i). Because Arkansas' regulations are substantially identical to EPA's regulations, analysis of the federal scheme can overlay and define that of Arkansas. *Cf. United States v. Power Engineering Co.*, 191 F.3d 1224, 1228 (10th Cir. 1999) (determining that because Colorado's regulations are substantially identical to EPA's regulations, analysis of the federal scheme can overlay and define that of Colorado).

[5] In *Harmon*, the United States Court of Appeals for the Eighth Circuit held that the federal government's right to pursue an enforcement action under RCRA attaches only when a state's authorization is revoked or when a state fails to initiate any enforcement action, and that EPA's practice of overfiling, in those states where it has authorized the state to act, oversteps the federal agency's authority under RCRA. 191 F.3d at 901-02. The Eighth Circuit's decision in *Harmon* concerning EPA's authority to overfile has not been without some criticism. *See, e.g., United States v. Power Engineering Co.*, 303 F.3d 1232 (10th Cir. 2002). Such is of no consequence here, however, as the State of Arkansas has not initiated an enforcement action against Rineco concerning the matters before the Court.

generators of hazardous waste.[6]

Rineco applied for and obtained a permit to operate a hazardous waste management facility at its Benton facility, RCRA Permit No. 28H-M001. Located at this facility is a Thermal Metal Wash Recycling Unit ("TMW"). The TMW is protected by Rineco Patent No. 7,341,155 B2 ("Patent"), which "relates generally to waste processing, and more particularly to systems and methods for processing heterogeneous waste materials." As noted in the Patent,

> [i]ndustry produces large amounts of waste that must be processed and disposed of by waste operators. Most of this waste is heterogeneous waste, which includes liquids and solids, which is friable and non-friable, which melts at various temperatures, has various solidification temperatures, low auto-ignition temperatures, and high vapor pressure. The waste material also includes ferrous and non-ferrous metals in a wide range of sizes. This waste is often categorized by applicable environmental regulations as "hazardous waste" because of its flammable, corrosive, or toxic nature. Thus, the disposal of such waste is heavily regulated by environmental regulations.
>
> There are inefficiencies associated with currently-available processes for disposing of industrial waste. Thus, a heretofore unaddressed need exists in the industry for systems and methods of processing waste materials.

The original TMW began operation in June 2003 and ceased operation in July 2004. The current TMW commenced operation in March 2005. The operation of both the original and the new TMW are similar, the main difference being, states Rineco, that the external heat source for the original TMW was natural gas while the external heat source for the new TMW is electricity and circulating hot oil.

The operation of the TMW, which does not have a RCRA permit, is at the center of the United States' claims in this action. The United States claims the primary purpose of the TMW

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[6] These wastes contain variable levels of ignitability, corrosivity, reactivity, and toxicity, and include arsenic, barium, benzene, cadmium, carbon tetrachloride, chromium, cresol, 1,4-dichlorobenzene, lead, mercury, wastewater treatment sludge, silver, vinyl chloride, spent halogenated and non-halogenated solvents, spent cyanide, acrylic acide, carbamic acid, DDT, sulfuric acid, toluene, xylene, etc.

is to convert a chemical soup of hazardous waste streams into hazardous waste derived fuel ("HWDF") for sale to boiler and industrial furnaces ("BIFs"), an activity it claims requires a RCRA permit. Rineco, however, claims the TMW is designed to recycle metal from hazardous and non-hazardous materials, an activity it claims is exempt from regulation and does not require a RCRA permit.

Prior to constructing the TMW at its facility, Rineco inquired of ADEQ concerning the TMW's permitting requirements. By letter dated January 10, 2003, ADEQ informed Rineco that it had made a regulatory determination regarding the TMW based on the following assumptions:

- The unit's intended purpose is to recycle metal contaminated with hazardous waste and recover scrap metal from Rineco's waste stream.
- No scrap metal from this unit will be blended into Rineco's fuel or otherwise disposed. The scrap metal will be recycled.
- The waste entering the auger contains metal contaminated with hazardous waste.
- The hazardous waste/constituents leaving the process will be handled properly as hazardous waste.
- The auger used in the process does not grind the hazardous waste entering the system; the auger only moves the waste stream.
- This unit is not intended to decontaminate containers.

ADEQ stated that "[b]ased on these assumptions, the processing unit does not require a permit, at this time" but that "the hopper may be considered a storage unit requiring a permit if the waste stream remains in the hopper for any period of time." *Id.* ADEQ went on to state that "[t]his determination is based on information submitted by Rineco for this specific unit for a specific use; the exemption does not apply to a different unit or may not apply if this unit is not utilized as

intended, and in accordance with the above assumptions." *Id.*

On February 21, 2003, ADEQ sent a letter to Rineco clarifying at the request of Rineco its position on "scrap metal contaminated with hazardous waste." ADEQ stated that scrap metal, in and of itself, is exempt from hazardous waste regulation. However, ADEQ also stated "when scrap metal is mixed with non-scrap metal material (*i.e.* listed or characteristic hazardous waste), the mixture would not be considered a scrap metal and the entire mixture would be subject to regulation."

By letter dated July 20, 2004, ADEQ informed Rineco that it had reason to believe that the TMW was

> not being operated in a manner that conforms to a regulatory based exclusion from hazardous waste management permitting. Based on the information gathered during our investigation and observations we find that the material being processed in the unit is a mixture of hazardous waste and shredded metal. Therefore, the entire mixture is a hazardous waste. This unit is therefore subject to permitting as a hazardous waste management unit.
>
> This letter shall serve as notice to Rineco that the introduction of hazardous waste to the [TMW] must cease immediately. Operation of the [TMW] that does not strictly conform to the January 10, 2003 and February 21, 2003 letters must be suspended until such time as this issue is resolved.

On July 30, 2004, after meeting with Rineco, Marcus Devine ("Devine"), then-Director of ADEQ, wrote to the company stating that

> [t]his letter affirms that the regulatory interpretation provided to Rineco in ADEQ's letters dated January 10 and February 21, 2003, reflect our current position on the issue. Our position, in brief, is that the TMW does not require a Hazardous Waste Management permit provided it is operated in the manner and for the specific purpose that Rineco described in their request for confirmation of this determination. Of course, the assumptions ADEQ stated in the January 10, 2003, letter and further clarified in the February 21, 2003, letter must remain valid, otherwise ADEQ may choose to revisit its position on the regulatory status of the unit.

On January 13, 2005, ADEQ sent a letter to Rineco stating that ADEQ had been informed that the TMW had been removed and, if Rineco had constructed a new TMW, ADEQ had to be officially notified to determine the regulatory status of the new unit. On February 2, 2005, Rineco confirmed that it had revised the TMW and expected the new TMW to be in full production shortly.

On February 9, 2005, Devine wrote to Rineco indicating that he was "disturbed to learn that Rineco has not informed the [ADEQ] staff of the details of this new/revised process," and that "[t]he regulatory determination by this agency in January 2003 was strictly limited to the unit addressed by the determination letter and limited in scope based on the nature of the operation as described at the time the determination was made." ADEQ required Rineco to provide a variety of information describing the operation of the revised unit in order to make a regulatory determination.

On March 22-24, 2005, EPA conducted an inspection of the Rineco facility. The purpose of this inspection was to evaluate Rineco's systems and methods for processing waste materials and facility compliance with RCRA. On June 28, 2005, EPA conducted a followup inspection of the Rineco facility because the TMW was not operating during the first inspection. The purpose of the second inspection was to evaluate the incoming and outgoing streams from Rineco's TMW.

Based on the March 22nd–24th and June 28th inspections and documentation provided by Rineco, EPA determined that the TMW is a thermal treatment device that applies heat (over 1000 degrees Fahrenheit) to vaporize hydrocarbons and water and thereby change the physical and chemical composition of the hazardous waste fed into the unit, by separating the waste into six

waste streams after treatment in the unit: water, oil, char, metal, vapor, and "inerts."[7] EPA states that solid and liquid phase wastes are placed in the TMW on a moving conveyor and that materials are then heated in an oxygen-limited chamber using an external heat source to vaporize hydrocarbons and water, and reduce the cohesiveness of the solid and liquid waste material. Vapors are then condensed and cooled, states EPA, and condensed vapors are passed through the oil-water separators to recover liquid hydrocarbons; the recovered hydrocarbons, along with other liquid waste, are transferred to the hydropulper where they are mixed into HWDF. Non-condensable vapors, states EPA, are combined and vented to a thermal oxidation unit ("TOU") for destruction, while solids exit the heated chamber where the materials are cooled, and the cooled material enters a vibratory screen and magnet train that separates the metal from the char. EPA states that the metal is discharged via a conveyor to dump trucks for possible sale and that the char is transferred to the hydropulper where it is mixed, along with the liquid waste, into fuel for sale to BIFs, including cement kilns. The United States argues that the TMW, far from being designed for recycling metal, is an integral part of a fuel blending activity.

Rineco, in turn, states that the TMW is a relatively simple device designed to recycle metal from hazardous and non-hazardous materials. Rineco states that metal-containing materials are placed in the TMW on a moving conveyor and that materials are then heated in an oxygen-depleted chamber via an external heat source to break the adhesive bonds of the materials

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[7] Rineco does not dispute that the TMW is a type of thermal treatment unit (although Rineco states that the TMW does not, as argued by the United States, apply heat to change both the chemical and physical character and composition of the waste fed into the TMW but, rather, that the heat merely breaks the adhesive bonds of the material that are attached to the surface of the metal). Thermal treatment units that do not use internal controlled flame combustion, as the TMW does not, are classified as "miscellaneous units" and subject to the standards for the management of hazardous waste set forth in APCEC Regulation No. 23 Part 264, Subpart X, §§ 264.600-264.603. The United States does not dispute that miscellaneous units may nevertheless be potentially exempt from regulation under RCRA.

that are attached to the surface of the metal. By heating the material, states Rineco, the adhesive bonds are broken, and the material separates from the metal. Rineco states the condensable vapors are captured and sent through a series of condensers/scrubbers, which cool the vapors, remove entrained solids, and carry them back in a liquid form, while the solids are sent through a series of cooling screws, vibrating screens, and magnets to further separate the metal from other inert materials. The final product of the TMW, states Rineco, is clean metal, which is sold to third parties, and all of the other separated materials (solids, liquids, and gases) are handled in accordance with RCRA and the Clean Air Act, 42 U.S.C. §§ 7401 *et seq*. With respect to these other separated materials – or output – from the TMW, Rineco acknowledges that the oil and char wind up in cement kilns where they are burned for energy recovery.

Two months after EPA's March 2005 inspection, Devine, on April 12, 2005, stated in a one-sentence letter that "I have determined that the unit at the Rineco facility known as the Thermal Metal Wash Recycling Unit does not require a hazardous waste management permit pursuant to the Arkansas Pollution Control and Ecology Commission Regulation No. 23, § 261.6(c)(1)."[8] EPA, however, states that a substantial percentage of oil and char resulting from the treatment process in the TMW is blended into HWDF and provided to BIFs where it is burned for energy recovery and that this activity requires a RCRA permit. EPA states Rineco's RCRA Permit No. 28H-M001 does not include the treatment, storage, or disposal activities connected with the TMW, and that it has asked Rineco to apply for a modification of its RCRA

[8] According to the United States, ADEQ's staff, including the Hazardous Waste Division Director, believe that the TMW requires a permit but that Devine took a different position. Devine's April 12th letter does not, however, revoke ADEQ's previous correspondence with the company stating that the agency's conclusion was based on Rineco's compliance with six conditions and, thus, Devine's determination seemingly was made in the context of Rineco's representations of the specific purpose and operation of the TMW.

permit to include such activities but that Rineco has not done so. This action followed.[9]

II.

The United States asserts five claims for relief in its original complaint concerning operation of the TMW: (1) unauthorized operation of RCRA treatment unit; (2) unauthorized operation of RCRA storage unit; (3) unauthorized operation of RCRA disposal unit; (4) failure to notify of hazardous waste activity; and (5) failure to provide financial assurances. Rineco moves for summary judgment on each of those claims, its central argument being that the TMW does not require a RCRA permit as the TMW is engaged in the recycling process and, thus exempt from regulation under APCEC Regulation No. 23 § 261.6(c)(1). The United States likewise moves for summary judgment on each of the claims asserted in its original complaint, asserting that two separate grounds entitle it to summary judgment, either of which it states is sufficient for the United States to prevail: first, Rineco's hazardous waste activities are not eligible for the recycling process exemption as a matter of law because, under APCEC Regulation No. 23 § 261.6(a), as an intermediary to a BIF, Rineco is not eligible for the recycling exemption set forth in APCEC Regulation No. 23 § 261.6(c)(1); second, Rineco is not engaged in a recycling activity in the TMW and cannot qualify for the recycling exemption because when waste materials are abandoned by disposal, burning or incineration, they are not recycled. Both parties argue there are no genuine issues of material fact with respect to these issues and that each is entitled to summary judgment as a matter of law.

[9] Rineco does not dispute that notice of the commencement of this action was given to the State of Arkansas in accordance with 42 U.S.C. § 6928(a)(2).

A.

Summary judgment is appropriate when "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed.R.Civ.P. 56(c). As a prerequisite to summary judgment, a moving party must demonstrate "an absence of evidence to support the non-moving party's case." *Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986). Once the moving party has properly supported its motion for summary judgment, the nonmoving party must "do more than simply show there is some metaphysical doubt as to the material facts." *Matsushita Elec. Indus. Co. v. Zenith Radio*, 475 U.S. 574, 586 (1986). The nonmoving party may not rest on mere allegations or denials of his pleading, but must "come forward with 'specific facts showing that there is a *genuine issue for trial.*'" *Id.* at 587 (quoting Fed.R.Civ.P. 56(e) and adding emphasis). *See also Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 256 (1986). The inferences to be drawn from the underlying facts must be viewed in the light most favorable to the party opposing the motion. *Matsushita,* 475 U.S. at 587 (citations omitted). However, "[w]here the record taken as a whole could not lead a rational trier of fact to find for the nonmoving party, there is no 'genuine issue for trial.'" *Id.* (citation omitted). "Only disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment." *Anderson*, 477 U.S. at 248. "Factual disputes that are irrelevant or unnecessary will not be counted." *Id.*

B.

1.

Addressing first the United States' claim of unauthorized operation of RCRA treatment unit, the United States alleges that since 2003 Rineco has been an owner or operator of a unit for the treatment of hazardous waste, without a required permit, in violation of section 3005(a) of RCRA, 42 U.S.C. § 6925(a), and APCEC Regulation No. 23 §§ 270.1, 270.10. Rineco, in turn, argues that as a matter of law, Rineco's TMW is exempt from regulation under APCEC Regulation No. 23 § 261.6(c)(1) and thus operation of the TMW does not require a RCRA permit.

a.

The Court has carefully considered the matter and agrees with the United States that Rineco's hazardous waste activities are not eligible for the recycling process exemption as a matter of law because, under APCEC Regulation No. 23 § 261.6(a),[10] as an intermediary to a BIF, Rineco is not eligible for the recycling exemption set forth in APCEC Regulation No. 23 §

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[10] APCEC Regulation No. 23 § 261.6(a) provides in pertinent part:

(a)(1) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of paragraphs (b) and (c) of this section, except for the materials listed in paragraphs (a)(2) and (a)(3) of this section. Hazardous wastes that are recycled will be known as "recyclable materials."

(2) The following recyclable materials are not subject to the requirements of this section but are regulated under subsections C through H of section 266 of this regulation and all applicable provisions in section 270 of this regulation and 40 CFR Part 124:

(i) Recyclable materials used in a manner constituting disposal (subsection C);

(ii) Hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under subsection O of section 264 or 265 of this regulation (subsection H).

261.6(c)(1).[11] Under § 261.6(a)(2)(ii), recyclable materials, *i.e.* hazardous wastes burned for energy recovery in BIFs, are not subject to the requirements for generators, transporters, and storage facilities listed in §§ 261.6(b) and 261.6(c), but instead are regulated under Subparts C through H of Part 266. Under Subpart H of Part 266, "[o]wners and operators of facilities that store or treat hazardous waste that is burned in a boiler or industrial furnace are subject to the applicable provisions of Sections 264, 265, and 270 of this regulation." APCEC Regulation No. 23 § 266.101(c)(1). The Subpart H regulations provide that "[t]hese standards apply to storage and treatment by the burner as well as to storage and treatment facilities operated by intermediaries (processors, blenders, distributors, etc.) between the generator and the burner." *Id.* Rineco is an intermediary fuel blender that treats hazardous wastes in the TMW that are sold to and burned for energy recovery in BIFs, including cement kilns, which are regulated under Part 266, Subpart H. Thus, the exemption set forth in § 261.6(c)(1) is inapplicable to Rineco.

Rineco concedes that recyclable materials subject to APCEC Regulation No. 23 § 261.6(a) do not qualify for the recycling exemption but argues that § 261.6(a) does not apply in the instant case because Rineco only recycles metal in the TMW. While Rineco admits that a substantial percentage of oil and char resulting from the treatment process in the TMW is blended into HWDF and sent to BIFs where it is burned for energy recovery, Rineco contends that only the percentage of metal resulting from the treatment process should be counted as

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[11] APCEC Regulation No. 23 § 261.6(c)(1) provides:

> (c)(1) Owners or operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of subsections A through L, AA, BB, and CC of sections 264 and 265, and under sections 266, 268, and 270 of this regulation and 40 CFR Part 124, and the notification requirements under section 3010 of RCRA, except as provided in paragraph (a) of this section. (The recycling process itself is exempt from regulation except as provided in § 261.6(d).)

recyclable materials in assessing whether § 261.6(a) applies and that focusing on the other materials exiting the TMW that are sent for use as fuel is a "red herring." In support of this argument, Rineco relies on a passage in EPA's Office of Solid Waste and Emergency Response Memorandum 9521.1994(01), entitled "Regulation of Fuel Blending and Related Treatment and Storage Activities" (the "Guidance"), which provides as follows:

> There may be some recycling operations at a fuel blending facility that are exempt from permitting, even though the fuel blending process itself is not exempt. The exemption is only available to units that are solely engaged in permit-exempt recycling; if the reclaimed materials are sometimes sent for use as a fuel, then the recycling unit would be subject to the permitting standards.

Rineco, states that "[a]s the [G]uidance explains, if the reclaimed materials are themselves sometimes sent for use as a fuel, then the recycling unit would be subject to permitting standards (*i.e.* the unit would not "solely" be engaged in recycling activities)." In contrast, states Rineco, "if the reclaimed materials are never sent for use as a fuel, like the reclaimed metal in this case, the recycling unit exemption would apply." Rineco states that because the material recycled in the TMW is metal, and metal recycled in the TMW is never burned for energy recovery, § 261.6(a)(2)(ii) does not apply to metal recycling in the TMW. Consequently, states Rineco, the materials placed into the TMW are subject to the general requirements of APCEC Regulation No. 23 § 261.6, including the recycling unit exemption in § 261.6(c)(1), and the TMW would be exempt from regulation under RCRA.

The Court rejects Rineco's assertion that the word "solely"in the Guidance exclusively refers to the ultimate use of the recycled material and that the focus should be exclusively on the percentage of metal generated from the TMW while ignoring all other outputs from the treatment process. Clearly, metal is not the only material recycled in the TMW, and APCEC Regulation

No. 23 § 261.6(a)(2) specifically provides that recyclable materials, *i.e.* hazardous wastes burned for energy recovery in BIFs, are not subject to this section. Rineco points to the word "reclaimed" in the Guidance, but in the preamble to the hazardous waste regulations EPA explained that although "commercial products reclaimed from hazardous wastes are products, not wastes, and so are not subject to the RCRA Subtitle C regulations," waste-derived fuel resulting from the reclamation process continues to be governed by RCRA:

> We caution, though, as we did in the proposal, that this principle does not apply to reclaimed materials that are not ordinarily considered to be commercial products, such as waste-waters or stabilized wastes. The provision also does not apply when the output of the reclamation process is burned for energy recovery or placed on the land. These activities are controlled by the provisions of the definition dealing with using hazardous wastes as ingredients in fuel or land-applied products. For instance, if a spent solvent is treated and blended with oil to sell as a fuel, that waste-derived fuel is still subject to RCRA jurisdiction.

50 Fed.Reg. 614, 634 n.20, Final Rule – Hazardous Waste Management System: Definition of Solid Waste, January 4, 1985.[12] Thus, if reclaimed materials from the TMW are sometimes sent for use as a fuel, as indisputably occurs with oil and char, then the TMW cannot be exempt from the RCRA permitting requirements of Part 266, Subpart H.

There is certainly evidence in the record showing that a substantial percentage of the output from the TMW is not metal, even though the recovery of metal clearly takes place and is one of the purposes of the TMW. While the metal recycled in the TMW is not burned for energy recovery, the deposition testimony of three former Rineco employees (whom Rineco describes as "disgruntled") and certain Rineco documents support the United States' contention that a

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[12] Rineco proffers EPA's Revisions to the Definition of Solid Waste, Final Rule, 73 Fed. Reg. 64668-01, October 30, 2008. These revisions are of no help to Rineco, however, as the final rule clarifies that the exclusion for hazardous secondary materials that are legitimately recycled "does not include the recycling of hazardous secondary materials that are . . . burned to recover energy or used to produce a fuel or otherwise contained in fuels (40 C.F.R. § 261.2(c)(2))." *Id.* at 64669, 64670, 64710, 64751.

substantial percentage of oil and char resulting from the treatment process in the TMW is blended into HWDF and sent to BIFs where it is burned for energy recovery. Michael W. Tallent ("Tallent"), a former Rineco Production Chemist, testified that he worked as senior production chemist/warehouse manager when the first TMW was installed at Rineco and that the primary purpose of the TMW was not to recycle metal, but to blend hazardous waste into fuel which was burned for energy recovery at BIFs. Similarly, S. Bradley Cummock ("Cummock"), a former Rineco Director of Operations and who was an employee of Rineco from January 1996 through July 2003, testified that the primary purpose of the TMW, especially from a financial standpoint, was to blend hazardous waste into fuel for cement kilns, not to recycle metal. Brad Patty ("Patty"), the former Rineco Director of Operations after Cummock and who worked as Director of Operations at Rineco from August 2003 to January 2006, also testified that the primary intent of the TMW was to blend hazardous waste into fuel for cement kilns, not to recycle metal.

Certain Rineco documents concerning operation of the TMW corroborate the testimony of Rineco's former Production Chemist and Directors of Operations. Between 2003 and 2008, the annual TMW Mass Balance Reports show that the TMW treatment process produced more than twice as much oil and char as metal. In addition, a TMW Monthly Profit Analysis for the month of January 2006 (which is under seal) shows the percentage of Rineco's profit from the TMW that was derived from metal sales, a percentage that certainly seems inconsistent with Rineco's claim that the primary purpose of the TMW is to recycle metal. Rineco characterizes its own Mass Balance Reports as "incomplete and inaccurate" and its TMW Monthly Profit Analysis as "incomplete and based on mere speculation," but Rineco cannot create facts issues

with its own conflicting assertions.[13]

In sum, the Court determines that Rineco's TMW unit does not qualify for the recycling process exemption set forth in APCEC Regulation No. 23 § 261.6(c)(1) because, under APCEC Regulation No. 23 § 261.6(a)(2)(ii), hazardous wastes that are burned for energy recovery in a BIF (as are the wastes managed in Rineco's TMW unit), are subject to APCEC Regulation No. 23 Part 266, Subpart H. Were the Court to uphold Rineco's interpretation, any hazardous waste treatment unit that processed an incidental amount of recovered material that is not burned for energy recovery would qualify for the recycling exemption. Such an interpretation is contrary to the regulations and RCRA's purpose to ensure the proper treatment, storage and disposal of hazardous waste so as to minimize the present and future threat to human health and the environment. *Meghrig*, 516 U.S. at 483.[14]

b.

The Court additionally agrees with the United States that the TMW is not eligible for the

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[13] Rineco, as previously noted, may not rest on mere allegations or denials of its pleadings, but must come forward with specific facts showing that there is a genuine issue for trial. *Matsushita*, 475 U.S. at 587. *See also* APCEC Regulation No. 23 § 261.2(f) (respondents in actions to enforce regulations implementing subtitle C of RCRA who raise a claim that certain material is conditionally exempt from regulation must demonstrate that they meet the terms of the exemption; in doing so, they must provide appropriate documentation to demonstrate that the material is exempt from regulation).

[14] Citing EPA's RCRA Orientation Manual 2006, Rineco argues that EPA has found that distillation units engaged in the recycling of hazardous spent solvents are exempt recycling units under 40 C.F.R. § 261.6(c)(1) even though the sludge created in the distillation process is sent off-site to BIFs. The RCRA Orientation Manual does not support Rineco's position. As the Manual states, "[n]ot all hazardous wastes pose the same degree of hazard when recycled," and "[w]hile RCRA specifically exempts some wastes when recycled, some recycling processes may still pose enough of a hazard to warrant some degree of regulation." It may be true that EPA has concluded that certain unrefined waste-derived fuels and oils from petroleum refineries may justify exemption from RCRA Subtitle C, but EPA also has concluded that "[t]he process of recycling hazardous waste by burning it for energy recovery may pose significant air emission hazards. Therefore, EPA [has] established specific operating standards for units burning hazardous waste for energy recovery." Rineco, it should be noted, does not treat a single predictable pre-distillation waste stream from a petroleum refinery, but rather more than 400 different types of hazardous waste containing variable levels of ignitability, corrosivity, reactivity, and toxicity.

recycling exemption for a second reason because substantial hazardous wastes that are treated in the TMW are destroyed by thermal treatment and not recycled in the TMW. With respect to such activity, EPA has stated:

> [W]e wish to clarify that materials being burned in incinerators or other thermal treatment devices, other than boilers and industrial furnaces, are considered to be "abandoned by being burned or incinerated" under § 261.2(a)(1)(ii), whether or not energy or material recovery also occurs .... In our view, any such burning (other than in boilers and industrial furnaces) is waste destruction subject to regulation either under Subpart O of Part 264 or Subpart O and P of Part 265. If energy or material recovery occurs, it is ancillary to the purpose of the unit–to destroy wastes by means of thermal treatment–and so does not alter the regulatory status of the device or the activity.

48 Fed.Reg. 14472, 14484, Proposed Rules, April 4, 1983.

Rineco claims that burning cannot occur in the TMW because the "materials are indirectly heated in an oxygen-depleted chamber." Rineco's use of the phrase "oxygen-depleted" is ambiguous, however, and Rineco has provided no actual evidence that oxygen is absent from the TMW. Carl Wikstrom, Director of Research and Development for Rineco, only states that the materials are heated in an "oxygen-depleted chamber via an external heat source to break the adhesive bonds of the materials that are attached to the surface of the metal." In contrast, the TMW Patent indicates that waste materials are placed in an oxygen limited chamber, not an oxygen depleted chamber. The Patent states:

> The feed hopper provides the waste material to a first chamber through an airlock. The airlock, for some embodiments, is a knife gate, which largely isolates the first chamber from the feed hopper. The airlock limits air infusion into the first chamber, which is, for some embodiments, a sub-ambient pressure chamber. This isolation removes dependence on a dynamic seal. Also, the improved seals limit or prevent appreciable influx of air into the system, thereby reducing the chances for unplanned oxidation and also reducing the amount of non-condensable gases that flow through the system. . . . For some embodiments, an inerting gas (e.g. carbon dioxide, nitrogen, etc.) is injected into the airlock to displace air or other

> oxidizing agents. This reduces the oxidation that can occur in the subsequent stages of the waste processing system.

Rineco's own documentation evidences destruction or burning of materials in the TMW. On December 28, 2005, EPA asked Rineco to "complete the attached table regarding volumes of waste managed at your facility for 2003, 2004 and 2005." EPA provided a table, based on Rineco's description of the TMW, showing yearly volume of hazardous waste received (liquid and solid phases), yearly volume into the TMW, yearly volume from the TMW divided in six outputs (water, oil, char, metal, vapors and inerts), and yearly volume into and out of the cryogenic unit. In a letter to EPA dated January 17, 2006, Rineco stated that its responses to the table were based on pounds, the numbers provided were Rineco's "best estimate," and the vapor and inerts categories were combined because Rineco was unable to separate them. The United States notes that the table showed that between 2003 and 2005, of the approximately 18.7 million lbs. of waste fed into the TMW annually, more than 2.6 million lbs. or at least 13.9% was unaccounted for, *i.e.* disposed of, burned, or incinerated in the treatment process, and that during the same period approximately 2 million lbs. or 10.7% of the output from the TMW was vapor/inerts, which are vented to the TOU where they are destroyed through burning and incineration. The United States notes as well that the presence of more than 4.4 million lbs. or at least 23.5% char indicates that the destruction of organic materials takes place in the TMW.[15]

Rineco does not specifically dispute the above percentages but contends that the table

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[15] Rineco proffers as "newly discovered evidence" a declaration from Dr. W. Roy Penney, a Professor in the Department of Chemical Engineering at the University of Arkansas, who stated that "complete combustion in the TMW is impossible." Dr. Penney does not, however, conclude that *no* combustion occurs in the TMW and he does not dispute that combustion and destruction occurs in the TOU. Rineco has also proffered a declaration from an attorney, David E. Polter, who essentially opines on the legal issues in this matter. However, the Court will not consider for purposes of today's decision legal opinions that "attempt to tell the court what result to reach." *Dow Corning Corp. v. Safety National Cas. Corp.*, 335 F.3d 742, 751-52 (8th Cir. 2003).

"does not reflect all of the materials exiting the TMW and, thus, any attempt to create a mass-balance report from this information is fatally flawed." Rineco states that "[i]mportantly, the chart does not reflect the amount of solids (other than char and metal) exiting the unit" and that "[t]herefore, the [United States'] allegations that 13.9% of the materials placed into the TMW are destroyed based on the numbers in the January 2006 chart are just plain wrong and misleading to the Court."

As previously noted, Rineco's claim that its table "does not reflect all of the materials exiting the TMW" and that its own Mass Balance Reports "are incomplete and inaccurate" fails to create a genuine issue of material fact concerning the evidence indicating that some 13.9% of the materials are burned or destroyed in the TMW. In its January 17th response to EPA's information request, Rineco made no mention that the six outputs from the TMW did not reflect the total output from the TMW and Rineco did not correct the table to add an output for "solids (other than char and metal) exiting the unit." The United States argues that Rineco clearly did not do so because the "inerts" category on the table describes the same waste materials that Rineco is now calling "solids." Certainly, neither Rineco's Patent nor Rineco's Fuel Blending & Recycling Processes flow chart describe "solids (other than char and metal) exiting the unit" but they do identify "inerts." The Patent states "[t]he metal separation system handles non-volatile fractions, including char, metal, and nonmagnetic inert substances such as, for example, glass, gravel, soil, sand, etc," and Rineco's flow chart indicates that "char, metal, and inerts" are the only solid phase materials that exit the TMW. There is no separate reference to "solids" exiting the TMW.

In any case, it is undisputed that vapor from the TMW is vented to the TOU where it is

destroyed through burning and incineration.[16] Thus, a portion of inputs to the TMW are volatilized by the high temperature, vented to the TOU, and destroyed through burning and incineration. In addition, the presence of substantial char shows that the destruction of organic materials takes place in the TMW.[17] Accordingly, the exemption for the recycling process found at APCEC Regulation No. 23 § 261.6(c)(1) does not apply because certain of the organic hazardous wastes processed in the TMW are not recycled but instead are destroyed by thermal treatment.[18]

c.

For the foregoing reasons, the Court grants summary judgment to the United States on its First Claim for Relief under RCRA (Unauthorized Operation of RCRA Treatment Unit) as set forth in its original complaint.

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[16] As indicated in the Patent, "[t]he residual non-condensable vapors are directed to a thermal oxidizer unit through an exhauster. As is known in the art, the thermal oxidizer unit destroys air toxics and volatile organic compounds ["VOC"] that are discharged."

[17] On April 15-16, 2008, David Duster ("Duster"), an environmental scientist with EPA, conducted a RCRA focused compliance evaluation at the Rineco facility and documented that fugitive VOC emissions were escaping from the TMW and other units at the Rineco facility. Similarly, former Rineco employees Tallent, Cummock, and Patty testified to fires occurring at the TMW and to VOCs and particulates that were leaked and discharged from the TMW into the air at the Rineco facility. Rineco points to the testimony of David Crew ("Crew"), ADEQ's on-site inspector, but Crew only testified that "to the best of my knowledge," there has never been a fire in the TMW. Crew did, however, testify that there have been fugitive emission issues with regard to the TMW, and he also testified that the scrap metal is a by-product of the entire process of the TMW, not the primary process, and that he believed and continues to believe that the TMW requires a RCRA permit. Rineco claims the TMW is "designed" for recycling metal, but the possibility of recycling is mentioned only twice in the 13-page Patent, stating first that certain metal (which can be fairly large, e.g. whole cans, etc.) moving along on a conveyor belt that progresses beyond the field of a magnet "can be recycled or disposed" and, second, that the systems and processes described in the Patent "permit recycling of various materials, which would otherwise not be permitted." The word "disposal," in contrast, is referenced numerous times throughout the Patent, which, as previously noted, "relates generally to waste processing, and more particularly to systems and methods for processing heterogeneous waste materials."

[18] Rineco also references EPA's "A Citizen's Guide to Thermal Desorption" ("Guide"), which describes the use of thermal desorption under the supervision of EPA as a method to clean up pollution at Superfund sites stating that "[t]he dust and harmful chemicals are separated from the gases and disposed of safely. The clean soil is returned to the site." Rineco, however, neither returns "clean soil" to its facility nor disposes of the separated materials in a Subtitle C landfill and so the Guide is not applicable.

2.

The Court now turns to the United States' claim of unauthorized operation of RCRA treatment unit. The United States alleges that since 2003 Rineco has been an owner or operator of a unit for the storage of hazardous waste, without a required permit, in violation of section 3005(a) of RCRA, 42 U.S.C. § 6925(a), and APCEC Regulation No. 23 §§ 270.1, 270.10. Rineco, however, argues that it has a valid and effective RCRA permit for the storage of hazardous waste at its facility that covers hazardous waste related to the TMW.

Under APCEC Regulation No. 23 § 270.1(b), storage of hazardous waste by any person who has not applied for or received a RCRA permit is prohibited. Under RCRA section 1004(33), 42 U.S.C. § 6903(33), "[t]he term 'storage,' when used in connection with hazardous waste, means the containment of hazardous waste, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of such hazardous waste." "Storage" is defined as "the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere." APCEC Regulation No. 23 § 260.10.

Rineco does not dispute that it is storing hazardous waste related to the TMW at its facility and it does not dispute that after shredding, waste materials are placed in totes which are stored near the shredders before treatment in the TMW. Rineco obtained its RCRA hazardous waste permit in August 1999 before it began operation of the TMW and the staging area of the totes for the TMW is not included in the existing permit. Thus, Rineco's failure to modify its existing RCRA permit to expressly include the hazardous waste storage areas related to the

TMW is a violation of Section 3005(a) of RCRA, 42 U.S.C. § 6925(a), and APCEC Regulation No. 23 §§ 270.1, 270.10.[19] Accordingly, the Court grants summary judgment to the United States on its Second Claim for Relief under RCRA (Unauthorized Operation of RCRA Storage Unit) as set forth in its original complaint.

3.

The Court now turns to the United States' claim of unauthorized operation of RCRA disposal unit. The United States alleges that since 2003 Rineco has been an owner or operator of a unit for the disposal of hazardous waste, without a required permit, in violation of section 3005(a) of RCRA, 42 U.S.C. § 6925(a), and APCEC Regulation No. 23 §§ 270.1, 270.10. Rineco, however, argues that it does not dispose of any hazardous waste related to the TMW at its facility.

As set forth above, Rineco's January 17th table regarding volumes of waste managed at its facility for 2003, 2004 and 2005 shows that Rineco disposes of hazardous waste related to the TMW. Again, Rineco's claim that its table "does not reflect all of the materials exiting the TMW" fails to create a genuine issue of material fact in the face of the evidence indicating that some 13.9% of the materials are burned or destroyed in the TMW. In addition, Rineco does not dispute that vapor, one of the outputs from the TMW, is vented to the TOU for destruction, nor does Rineco controvert the findings of the recent EPA inspection by Duster or similar testimony from former Rineco employees Tallent, Cummock, and Patty that fugitive VOC air emissions are

[19] The Court agrees with the United States that the permit requirements apply to the staging area for the totes given that when material is waiting to be placed in the TMW, there are emissions that can occur that would otherwise not be occurring in the absence of the TMW.

"leaking" from the TMW and other units at the Rineco facility.

In addition to disposal occurring at the TMW itself, it is not disputed that char and other materials from the TMW are blended into HWDF and sent off-site to BIFs where it is burned and emitted into the atmosphere or disposed or "deposited" as a waste in a landfill after the burning process is completed. Rineco argues that in order for "disposal" to occur, RCRA regulations require that the disposal must take place on the land or water at the Rineco facility. The term "disposal" is not so limited, however, but encompasses "the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters." 42 U.S.C. § 6903(3); APCEC Regulation No. 23 § 260.10. The mere act of sending waste off-site for disposal does not make a unit a disposal unit; rather, Rineco is engaged in the unauthorized operation of a disposal unit because it is incorporating the char into a fuel, and the char is ultimately discharged into the air or deposited in a landfill. Accordingly, the Court grants summary judgment to the United States on its Third Claim for Relief under RCRA (Unauthorized Operation of RCRA Disposal Unit) as set forth in its original complaint.

4.

The Court now turns to the United States' claim of failure to notify of hazardous waste activity. The United States alleges that Rineco has failed to file, with EPA or ADEQ, a notification of hazardous waste activity related to the TMW in compliance with Section 3010 of RCRA, 42 U.S.C. § 6930. Rineco, however, argues it submitted notification of its hazardous

waste activity related to the TMW to ADEQ as part of its Hazardous Waste Annual Reports for 2003, 2004, 2005, 2006, and 2007, noting that as to each report, it indicated that the facility was a recycler of hazardous waste, included hazardous wastes recycled in the TMW in the list of regulated hazardous wastes, and included hazardous wastes recycled in the TMW in the waste generation totals for the facility.

Section 3010 of RCRA requires Rineco to provide notice of the location and a general description of any treatment, storage or disposal activity conducted at the facility. 42 U.S.C. § 6930. Rineco's general reference on the RCRA Subtitle C Site Identification form that it is a recycler of hazardous waste and its reference to the hazardous wastes recycled in the TMW as well as its hazardous waste totals at the facility is not sufficient. Section 3010 requires the operator of a hazardous waste treatment, storage or disposal facility to file specific reports. *McClellan Ecological Seepage Situation v. Perry*, 47 F.3d 325, 329-330 n.7 (9th Cir. 1995). Rineco does not dispute that it has failed to file with EPA or ADEQ a notification of its hazardous waste activity expressly related to the TMW. Accordingly, the Court grants summary judgment to the United States on its Fourth Claim for Relief under RCRA (Failure to Notify of Hazardous Waste Activity) as set forth in its original complaint.

5.

The Court now turns to the United States' claim of failure to provide financial assurances. The United States alleges that Rineco has failed to establish financial assurance requirements for closure of the TMW and related storage units at the facility in violation of section 3004(a) of RCRA, 42 U.S.C. § 6924(a), and APCEC Regulation No. 23 § 264, Subpart H.

Rineco does not dispute that it has failed to establish financial assurances related to the TMW but instead contends that because the TMW is exempt from regulation, Rineco is not required to comply with financial assurances requirements for closure of the TMW. As set forth above, however, Rineco does not qualify for the recycling exemption in APCEC Regulation No. 23 § 261.6(c)(1). As a result, Rineco must establish financial assurances for the TMW.[20] Accordingly, the Court grants summary judgment to the United States on its Fifth Claim for Relief under RCRA (Failure to Provide Financial Assurances) as set forth in its original complaint.

C.

One final matter concerns Rineco's affirmative defenses. Rineco argues that if it is not entitled to summary judgment, genuine issues of fact on Rineco's affirmative defenses preclude the granting of summary judgment in favor of the United States, including whether EPA is equitably estopped from asserting claims against Rineco based on the decision of the delegated authority (*i.e.* ADEQ) that the TMW does not require a RCRA permit, whether EPA is exercising selective enforcement against Rineco, and whether Rineco is being denied equal protection. However, both Rineco and the United States have moved for summary judgment, those motions are ripe for consideration, and Rineco has not come forward with facts to support any of its affirmative defenses. Claims for equitable estoppel do not run against the federal government unless the party claiming estoppel establishes, among other things, that the government engaged

[20] During oral argument, Rineco acknowledged that the financial assurances argument turns on the exemption issue and that if the Court finds that the TMW is covered under RCRA, which the Court has today so done, then Rineco is required to establish financial assurances for the TMW.

in some sort of affirmative misconduct. *Miller v. U.S. Through Farmers Home Admin.*, 907 F.2d 80, 82-83 (8th Cir. 1990). To establish a prima facie claim of selective prosecution, a party must demonstrate that others similarly situated to it were not prosecuted and that the decision to enforce the law against it was motivated by discriminatory purpose. *United States v. Perry*, 152 F.3d 900, 903 (8th Cir. 1998). To establish a viable equal protection claim, Rineco must show that it was treated differently than similarly situated entities for purposes of the challenged government action. *Koscielski v. City of Minneapolis*, 435 F.3d 898, 901 (8th Cir. 2006). Rineco has shown no evidence of affirmative misconduct or discriminatory purpose by the United States to support its estoppel and selective prosecution claims, and Rineco has shown no evidence that similarly situated entities received favorable treatment so as to establish a viable equal protection claim. As Rineco has shown no evidence to support these or any other affirmative defenses, summary judgment in favor of the United States is not precluded.[21]

III.

For the foregoing reasons, the Court grants the United States' motion for summary judgment [doc.#40] as to liability on each of the five claims asserted in its original complaint and denies Rineco's motion for summary judgment [doc.#13]. This matter will proceed as to any appropriate civil penalties and as to the three remaining claims in the United States' amended

[21] Rineco alludes to seeking additional discovery on its affirmative defenses but a party opposing summary judgment who believes that he or she has not had adequate opportunity to conduct discovery must seek relief pursuant to Fed.R.Civ.P. 56(f), which requires that party to show what specific facts further discovery might unveil. *United States v. Casino Magic Corp.*, 293 F.3d 419, 426 (8th Cir. 2002) (citations omitted). This, Rineco has failed to do. In addition, during a telephone conference held on November 19, 2008, Rineco agreed that discovery could be stayed until such time as the Court ruled on the parties' cross-motions for summary judgment on liability.

and supplemental complaint.[22]

IT IS SO ORDERED this 4th day of March 2009.

/s/Susan Webber Wright

UNITED STATES DISTRICT JUDGE

[22] As noted in the November 24th Order, the Court will consider for purposes of determining any appropriate civil penalties the seriousness of the violation, any good faith efforts to comply, the harm caused by the violation, any economic benefit derived from noncompliance, the violator's ability to pay, the government's conduct, and the clarity of the obligation involved. *United States v. Ekco Housewares, Inc.*, 62 F.3d 806, 815 (6th Cir. 1995). With respect to economic benefit, the Court reiterates that the goal of the economic benefit analysis is to prevent a violator from profiting from its wrongdoing, level the economic playing field, and prevent violators from gaining an unfair competitive advantage. *United States v. Municipal Authority of Union Township*, 150 F.3d 259, 263-64 (3rd Cir. 1998) (citation omitted). *See also Pound v. Airosol Company, Inc.*, 498 F.3d 1089, 1099-1100 (10th Cir. 2007) (in determining economic benefit of noncompliance under Clean Air Act ("CAA"), "the better argument" is that "any profits realized through the sale, or offer of sale, of a prohibited product ought to be included when assessing the economic benefit of a CCA violation, the rationale being that one ought not to profit from one's wrongful conduct;" rejecting the argument that "the economic benefit is more properly measured by considering the costs that it would have incurred to comply with the CAA (*i.e.*, the cost of reformulation)"); *Ekco Housewares*, 62 F.3d at 816 (district court did not abuse its discretion in determining that the amount of the RCRA penalty could be based on the economic benefit gained through noncompliance, including cost savings realized by noncompliance, and district court properly considered the deterrence effect not just on defendant but on the regulated community as a whole). Thus, while it may be that the economic benefits calculation ideally begins with the costs that should have been spent to achieve compliance, *Airosol Company,* 498 F.3d at 1100, the Court will consider all relevant documentation that could lead to a reasonable approximation of economic benefit to Rineco during the period that the TMW has been operating without a permit, including: (1) the cost of applying for and obtaining a RCRA permit; (2) TMW profit from the start of its operation to the present; (3) the pollution control costs associated with the RCRA permit; and (4) other benefits such as any competitive advantage Rineco has obtained by charging generators a lower price to dispose of waste in a non-regulated process.

ATTACHMENT

TRADEBE BROCHURE

TRADEBE

Sustainability
At Work

SOLID DISTILLATION SYSTEM

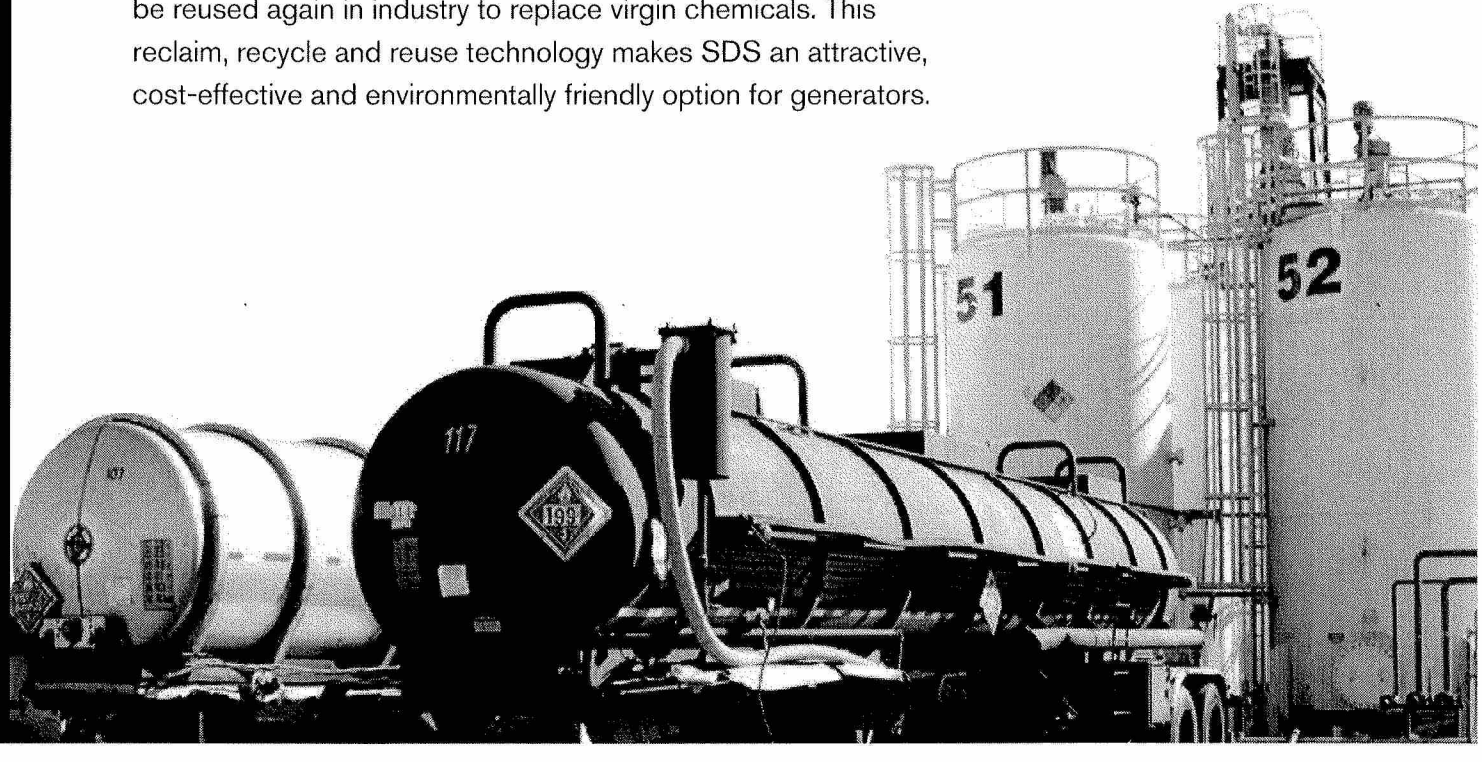
SUSTAINABLE WASTE MANAGEMENT

Tradebe's Solid Distillation System (SDS) is a positive step forward in waste recycling technology and a new, cost-effective way for generators to recycle their organic solid waste.

Before SDS, most solid waste was incinerated in a process designed to destroy its hazardous organic content by driving off volatiles and burning excess gases.

After incineration, residual materials were landfilled. Now, SDS offers a more responsible solution. Wastes such as paints, resins, polymers, solvent-soaked rags, and refinery wastes have their hazardous organic content removed and recycled so it can be reused again in industry to replace virgin chemicals. This reclaim, recycle and reuse technology makes SDS an attractive, cost-effective and environmentally friendly option for generators.

SDS is an attractive, cost-effective and environmentally friendly option for generators.



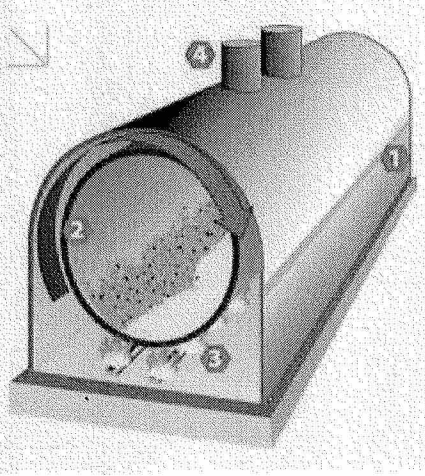
SDS IS UNIQUE FOR FOUR IMPORTANT REASONS.

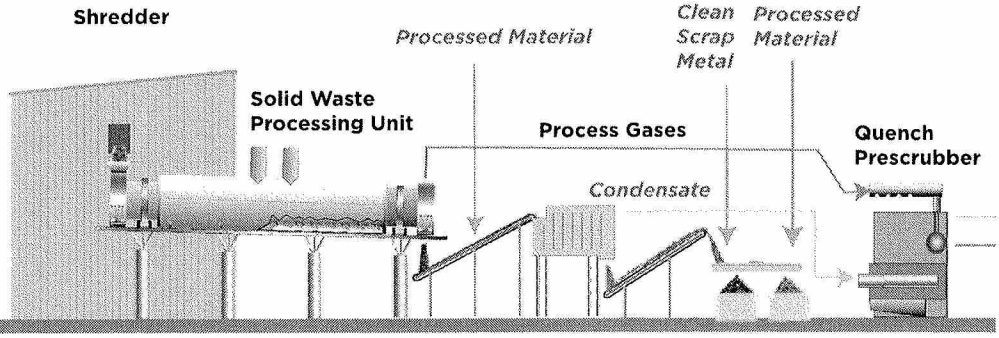
1. Processed material never touches the heat source.
2. Volatile and semi-volatile organics are "baked out" of the waste so they can be reclaimed, distilled and recycled.
3. Tradebe's SDS system is built to handle large volumes of solid waste and work continuously.
4. After processing, a portion of the residual material can be beneficially used in energy recovery.

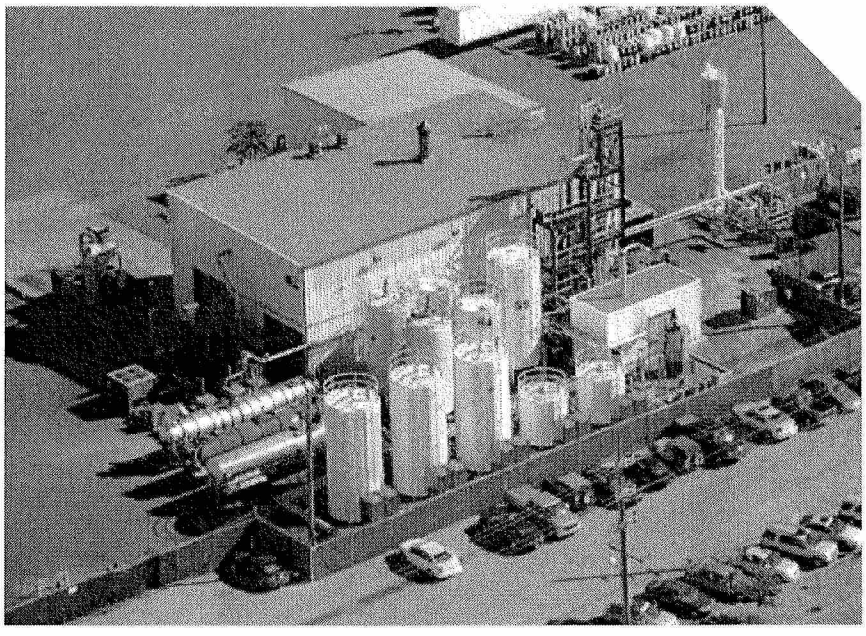
HOW IT WORKS AND WHY IT'S BETTER

THE SDS THERMAL PROCESSOR CONTAINS FOUR MAIN COMPONENTS.

1. *A thermal enclosure that surrounds the entire process*
2. *A rotating waste processing chamber located inside the thermal enclosure*
3. *An indirect heating system located under the rotating chamber*
4. *A heat exhaust system that reclaims and reuses process heat*







RESPONSIBLE MANAGEMENT, START TO FINISH

The waste typically arrives in metal drums. Tradebe chemists sample and profile each shipment to ensure compatibility with the SDS process.

Once accepted, the drums containing waste are processed through a powerful shredder that reduces everything to a uniform size. The shredded waste is fed into an entry valve at the top of the long, oven-like rotating process chamber. The anaerobic atmosphere inside the process chamber is designed to prevent the oxidation of hydrocarbon components as they are driven from the wastes.

As wastes tumble down the rotating cylinder, they are indirectly heated to very high temperatures; the heat is applied to the outside of the rotating chamber so the material on the inside is never exposed to direct flame.

The high internal temperatures drive all volatile and semi-volatile organic chemicals from the solids. The organic components are collected, condensed, and sent to an oil/water separator as a water/organic mixture to be processed.

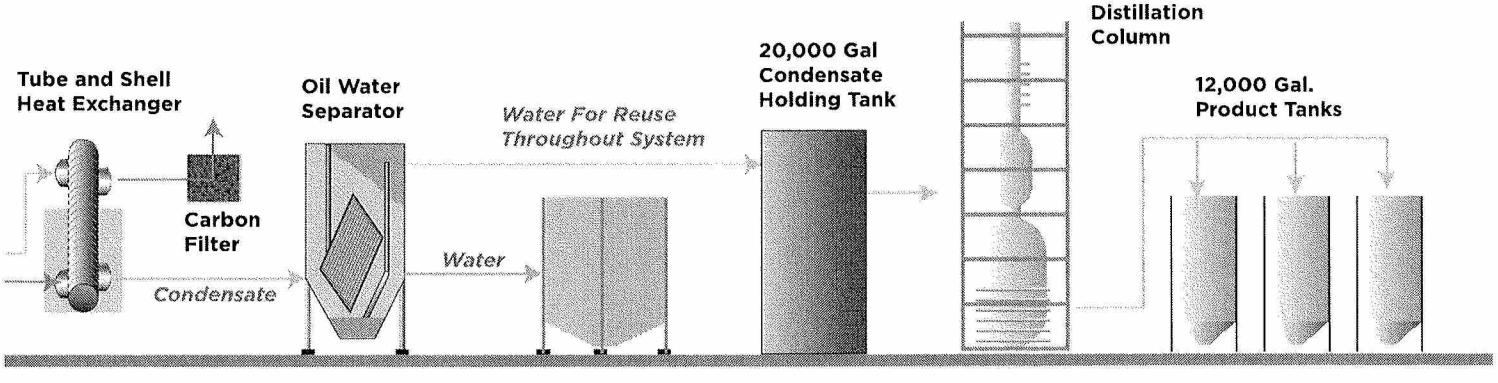
While SDS is a fully automated technology, skilled on-site personnel, working from a control center, monitor the process every step of the way to ensure a high quality end product. From the control terminal the operator can visually monitor and operate every key element in the process.

WHAT WASTES CAN BE PROCESSED?

Virtually any organic solid waste can be processed through SDS, including paint waste, solvent soaked rags, resins, polymers, production debris, refinery waste and discarded commercial products, and many more similar wastes.

Once waste is processed through SDS, the generator receives a Certificate of Recycling that affirms the waste has been recycled. The generator then has no further liability. The Certificate of Recycling is also beneficial for generators with ISO 14001 programs and Environmental Management System recycling goals.

Returning potentially hazardous chemicals to industry for reuse, rather than simply wasting their valuable organic content through incineration, is what Tradebe's responsible waste management program is all about. SDS technology achieves waste minimization and recycling goals by transforming waste into valuable recycled products.



SDS BENEFITS

- *SDS can effectively process virtually any solid organic hazardous waste.*
- *SDS helps generators meet Environmental Management Systems objectives.*
- *SDS prevents pollution while promoting recycling and reuse.*
- *SDS helps customers meet US EPA's RCRA Conservation Challenge.*
- *SDS eliminates the release of hazardous constituents into the atmosphere.*
- *SDS conserves energy while keeping waste out of the environment.*
- *SDS reclaims valuable constituents found in solid hazardous waste and reduces the demand for virgin chemicals.*

Solid Distillation System (SDS) is a positive step forward in waste recycling technology. SDS offers customers an effective and cost-efficient method for recycling organic solid waste that might otherwise be incinerated or landfilled. SDS extracts the organics from solid hazardous waste and transforms them into reusable products. SDS recycled products are being beneficially used now in numerous industries throughout the country in place of virgin chemicals.

SDS...
New technology for a new world of waste recycling.

Sustainability At Work

TRADEBE

Tradebe Treatment & Recycling, LLC
A Division of Tradebe Environmental Services, LLC

4343 Kennedy Avenue
East Chicago, IN 46312

Toll Free Nationwide Customer Service:
(800) 388-7242

Northeast Customer Service and Emergency Response:
(888) 276-0887

www.tradebeusa.com

ATTACHMENT

CONSENT AGREEMENT WITH TDX

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 6
DALLAS, TEXAS

IN THE MATTER OF:	)	
US ECOLOGY TEXAS, INC., and TD*X ASSOCIATES LP	)	DOCKET NOS. RCRA-06-2012-0936 and RCRA-06-2012-0937
RESPONDENTS	)	

CONSENT AGREEMENT AND FINAL ORDER

The Director of the Compliance Assurance and Enforcement Division of the United States Environmental Protection Agency (EPA), Region 6 (Complainant) and US Ecology Texas, Inc. and TD*X Associates L.P. (Respondents) in the above-referenced proceeding, hereby agree to resolve this matter through the issuance of this Consent Agreement and Final Order (CAFO).

I. PRELIMINARY STATEMENT

1. This proceeding for the assessment of civil penalties and the issuance of a compliance order is brought by EPA pursuant to Section 3008 of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6928, as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), and is simultaneously commenced and concluded through the issuance of this Consent Agreement and Final Order (CAFO) pursuant to 40 C.F.R. §§ 22.13(b), 22.18(b)(2) and (3), and 22.37.

2. Notice of this action was given to the State of Texas prior to the issuance of this CAFO, as required by Section 3008(a)(2) of RCRA, 42 U.S.C. § 6928(a)(2).

3. For the purposes of this proceeding, the Respondents admit the jurisdictional allegations contained herein; however, the Respondents neither admit nor deny the specific factual allegations contained in this CAFO.

4. The Respondents explicitly waive any right to contest the allegations and their right to appeal the proposed Final Order set forth therein, and waive all defenses which have been raised or could have been raised to the claims set forth in the CAFO.

5. Compliance with all the terms and conditions of this CAFO shall resolve only those violations which are set forth herein.

6. The Respondents consent to the issuance of the CAFO hereinafter recited and consent to the issuance of the Compliance Order contained therein.

II. FINDINGS OF FACT AND CONCLUSIONS OF LAW

A. PRELIMINARY ALLEGATIONS

7. US Ecology Texas, Inc. (USET) is a corporation incorporated under the laws of the State of Delaware and authorized to do business in the State of Texas.

8. TD*X Associates LP (TD*X) is a limited partnership authorized to do business in the State of Texas.

9. "Person" is defined in 30 T.A.C. § 3.2(25) [40 C.F.R. §§ 260.10 and 270.2], and Section 1004(5) of RCRA, 42 U.S.C. § 6903(15) as "an individual, corporation, organization, government or government subdivision or agency, business trust, partnership, association, or any other legal entity."

10. The Respondent USET is a "person" as defined by 30 T.A.C. § 3.2 (25) [40 C.F.R. § 260.10], and Section 1004 (15) of RCRA, 42 U.S.C. § 6903(15).

11. The Respondent TD*X is a "person" as defined by 30 T.A.C. § 3.2 (25) [40 C.F.R. § 260.10], and Section 1004 (15) of RCRA, 42 U.S.C. § 6903 (15).

12. "Owner" is defined in 30 T.A.C. § 335.1(108) [40 C.F.R. § 260.10] as "the person who owns a facility or part of a facility."

13. "Operator" is defined in 30 T.A.C. § 335.1(107) [40 C.F.R. § 260.10] as "the person responsible for the overall operation of a facility".

14. "Owner or operator" is defined in 40 C.F.R. § 270.2 as "the owner or operator of any facility or activity subject to regulation under RCRA."

15. "Facility" is defined in 30 T.A.C. § 335.1(59) [40 C.F.R. § 260.10] as meaning "all contiguous land, and structures, other appurtenances, and improvements on the land, used for storing, processing, or disposing of municipal hazardous waste or industrial solid waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them)."

16. The Respondent USET owns and operates a hazardous waste treatment, storage, and disposal (TSD) facility located at 3327 County Road 69, Robstown, TX 78380, EPA I.D. No. TXD069452340, Permit No. HW-50052-001.

17. The TSD identified in Paragraph 16 is a "facility" as that term is defined in 30 T.A.C. § 335.1(59) [40 C.F.R. § 260.10].

18. The Respondent USET is the "owner" and/or "operator" of the facility identified in Paragraph 16, as those terms are defined in 30 TAC § 335.1(107) & (108) [40 C.F.R. § 260.10] and 40 C.F.R. § 270.2.

19. An oil reclamation unit is located at the facility identified in Paragraph 16.

20. The Respondent TD*X owns and operates a thermal desorption unit (TDU), as well as the feed preparation system that includes a shaker tank (T-30), three mix tanks (T-31, T-32, and T-33), a centrifuge, and a surge tank (T-34) at the oil reclamation unit.

21. The Respondent TD*X began operating the TDU and related equipment on or about June 15, 2008.

22. On or about June 8 – 11, 2010, June 14 – 17, 2010, and August 9 – 11, 2010, the Respondent USET's TSD facility and the oil reclamation unit were inspected by representatives of EPA pursuant to Section 3007 of RCRA, 42 U.S.C. § 6927.

B. VIOLATIONS

Count One – Processing Hazardous Waste Without a Permit or Interim Status

23. Pursuant to Sections 3005(a) and (e) of RCRA, 42 U.S.C. §§ 6925(a) and (e), and 30 T.A.C. § 335.43(a) [40 C.F.R. § 270.1(b)], a RCRA permit or interim status is required for the processing (treatment),[1] storage, or disposal of hazardous waste.

24. "Hazardous waste" is defined in 30 T.A.C. § 335.1(69) [40 C.F.R. § 261.3] as "any solid waste identified or listed as a hazardous waste by the administrator of the United States Environmental Protection Agency in accordance with the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, 42 United States Code, §§ 6901 *et seq.*"

25. "Recyclable materials" is defined in 30 T.A.C. §335.24(a) [40 C.F.R. § 261.6(a)(1)] as "hazardous wastes that are recycled".

[1] The Texas Administrative Code uses the term "processing" instead of "treatment". The term "processing" as used by Texas is essentially equivalent to the term "treatment" as used in the federal statute and regulations.

26. The Respondent USET receives "hazardous waste" from off-site generators, as that term is defined by 30 T.A.C. § 335.1(69) [40 C.F.R. § 261.3].

27. The Respondent USET receives "recyclable materials" from off-site generators, as that term is defined by 30 T.A.C. § 335.24(a) [40 C.F.R. § 261.6(a)(1)].

28. Recyclable materials destined for oil reclamation are transferred to the Respondent TD*X by the Respondent USET.

29. Processing (treatment) is defined in 30 T.A.C. § 335.1(122) [40 C.F.R. § 260.10] as follows:

> The extraction of materials, transfer, volume reduction, conversion to energy, or other separation and preparation of solid waste for reuse or disposal, including the treatment or neutralization of solid waste or hazardous waste, designed to change the physical, chemical, or biological character or composition of any solid waste or hazardous waste so as to neutralize such waste, or so as to recover energy or material from the waste or so as to render such waste nonhazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume. The transfer of solid waste for reuse or disposal as used in this definition does not include the actions of a transporter in conveying or transporting solid waste by truck, ship, pipeline, or other means. Unless the executive director determines that regulation of such activity is necessary to protect human health or the environment, the definition of processing does not include activities relating to those materials exempted by the administrator of the United States Environmental Protection Agency in accordance with the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, 42 United States Code, §§6901 *et seq.*, as amended.

30. On various dates after June 15, 2008, certain recyclable materials were processed in the tanks identified in Paragraph 20.

31. The recyclable materials identified in Paragraph 30 did not meet the exemption in 30 T.A.C. § 335.24(c)(4)(C) [40 C.F.R. § 261.6(a)(3)(iv)(C) because the hazardous wastes were not "oil-bearing hazardous wastes from petroleum refining, production, and transportation practices."

32. The Respondent TD*X processed (treated) hazardous waste as that term is defined in 30 T.A.C. § 335.1(122) [40 C.F.R. § 260.10] in the tanks identified in Paragraph 20.

33. To date, neither the Respondent USED nor Respondent TD*X has applied for nor received a RCRA permit or interim status to allow the processing (treatment) of hazardous waste in the tanks identified in Paragraph 20.

34. Therefore, the Respondent USET and the Respondent TD*X have violated Sections 3005(a) and (e) of RCRA, 42 U.S.C. §§ 6925(a) and (e), and 30 T.A.C. § 335.43(a) [40 C.F.R. § 270.1(b)] by processing (treating) hazardous waste without a RCRA permit or interim status.

Count Two – Processing Hazardous Waste Without a Permit or Interim Status

35. Pursuant to Sections 3005(a) and (e) of RCRA, 42 U.S.C. §§ 6925(a) and (e), and 30 T.A.C. § 335.43(a) [40 C.F.R. § 270.1(b)], a RCRA permit or interim status is required for the processing (treatment), storage, or disposal of hazardous waste.

36. "Hazardous waste" is defined in 30 T.A.C. § 335.1(69) [40 C.F.R. § 261.3] as "any solid waste identified or listed as a hazardous waste by the administrator of the United States Environmental Protection Agency in accordance with the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, 42 United States Code, §§ 6901 *et seq.*"

37. "Recyclable materials" is defined in 30 T.A.C. §335.24(a) [40 C.F.R. § 261.6(a)(1)] as "hazardous wastes that are recycled".

38. The Respondent USET receives "hazardous waste" from off-site generators, as that term is defined by 30 T.A.C. § 335.1(69) [40 C.F.R. § 261.3].

39. The Respondent USET receives "recyclable materials" from off-site generators, as that term is defined by 30 T.A.C. § 335.24(a) [40 C.F.R. § 261.6(a)(1)].

40. Recyclable materials destined for oil reclamation are transferred to the Respondent TD*X by the Respondent USET.

41. On various dates after June 15, 2008, certain recyclable materials were fed into the TDU that did not meet the exemption in 30 T.A.C. § 335.24(c)(4)(C) [40 C.F.R. § 261.6(a)(3)(iv)(C) because the hazardous wastes were not "oil-bearing hazardous wastes from petroleum refining, production, and transportation practices."

42. Processing (treatment) is defined in 30 T.A.C. § 335.1(122) [40 C.F.R. § 260.10] as follows:

> The extraction of materials, transfer, volume reduction, conversion to energy, or other separation and preparation of solid waste for reuse or disposal, including the treatment or neutralization of solid waste or hazardous waste, designed to change the physical, chemical, or biological character or composition of any solid waste or hazardous waste so as to neutralize such waste, or so as to recover energy or material from the waste or so as to render such waste nonhazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume. The transfer of solid waste for reuse or disposal as used in this definition does not include the actions of a transporter in conveying or transporting solid waste by truck, ship, pipeline, or other means. Unless the executive director determines that regulation of such activity is necessary to protect human health or the environment, the definition of processing does not include activities relating to those materials exempted by the administrator of the United States Environmental Protection Agency in accordance with the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, 42 United States Code, §§6901 *et seq.*, as amended.

43. Thermal processing (thermal treatment) is defined in 30 T.A.C. § 335.1(149) [40 C.F.R. § 260.10] as follows:

> the processing of solid waste or hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the solid waste or hazardous waste. Examples of thermal processing are incineration, molten salt, pyrolysis, calcination, wet air

oxidation, and microwave discharge. (See also "incinerator" and "open burning.").

44. The TDU uses heat from an indirect heated rotary dryer to separate the organic constituents from the hazardous waste feed material. A nitrogen carrier gas is used to transfer the vapor phase organic constituents to a gas treatment system. The oil is recovered by condensing vapor phase organic constituents in the gas treatment system. A portion of the TDU's recirculating nitrogen carrier gas, along with non-condensable gases, is vented, filtered, and then injected into the combustion chamber of the TDU, where it is burned.

45. The separation of the organic constituents from the hazardous waste in the TDU's indirectly heated rotary dryer constitutes thermal processing (thermal treatment) as that term is defined in 30 T.A.C. § 335.1(149) [40 C.F.R. § 260.10].

46. To date, neither the Respondent USET nor Respondent TD*X has applied for nor received a RCRA permit or interim status to allow the thermal processing (thermal treatment) of hazardous waste in the TDU.

47. Therefore, the Respondent USET and the Respondent TD*X have violated Sections 3005(a) and (e) of RCRA, 42 U.S.C. §§ 6925(a) and (e), and 30 T.A.C. § 335.43(a) [40 C.F.R. § 270.1(b)] by thermally processing (thermally treating) hazardous waste without a RCRA permit or interim status.

Count Three - Processing Hazardous Waste Without a Permit or Interim Status

48. Pursuant to Sections 3005(a) and (e) of RCRA, 42 U.S.C. §§ 6925(a) and (e), and 30 T.A.C. § 335.43(a) [40 C.F.R. § 270.1(b)], a RCRA permit or interim status is required for the processing (treatment), storage, or disposal of hazardous waste.

49. "Hazardous waste" is defined in 30 T.A.C. § 335.1(69) [40 C.F.R. § 261.3] as "any solid waste identified or listed as a hazardous waste by the administrator of the United States